GAZETTEER

OF THE

MONTGOMERY DISTRICT,

1883-84.

Compiled and Published under the authority of the Punjab Government.

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PREFACE.

THE period fixed by the Punjab Government for the compilation of the *Gazetteer* of the Province being limited to twelve months, the Editor has not been able to prepare any original matter for the present work; and his duties have been confined to throwing the already existing material into shape, supplementing it, as far as possible, by contributions obtained from district officers, passing the draft through the press, circulating it for revision, altering it in accordance with the corrections and suggestions of revising officers, and printing and issuing the final edition.

The material available in print for the *Gazetteer* of this district consisted of the Settlement Reports, and a draft *Gazetteer*, compiled between 1870 and 1874 by Mr. F. Cunningham, Barrister-at-Law. Notes on certain points have been supplied by district officers; while the report on the Census of 1881 has been utilised. Of the present volume, Section A of Cap. V (General Administration), and the whole of Cap. VI (Towns), have been for the most part supplied by the Deputy Commissioner; Section A of Cap. III (Statistics of Population) has been taken from the Census Report; while here and there, and especially in the matter of ancient history, passages have been extracted from Mr. Cunnigham's compilation already referred to. But with these exceptions, the great mass of the text has been taken almost, if not quite verbally, from Mr. Purser's Settlement Report of the district.

The draft edition of this *Gazetteer* has been revised by Colonel Riddell, Major MacNeile, and Mr. Purser, and by the Irrigation Department so far as regards the canals of the district. The Deputy Commissioner is responsible for the spelling of vernacular names, which has been fixed throughout by him in accordance with the prescribed system of transliteration. The final edition, though completely compiled by the Editor, has been passed through the press by Mr. Stack.

THE EDITOR.

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CHAPTER I.

THE DISTRICT.

SECTION A.—DESCRIPTIVE.

Chapter I, A.

Descriptive.

General description.

The Montgomery district, formerly known as Gugerá, is the south-easternmost of the four districts of the Multán division, and lies between north latitude 29° 58′ and 31° 33′, and east longitude 72° 30′ and 74° 11′. It is bounded on the north-east by the district of Lahore, on the north-west by the district of Jhang, on the south-west by the district of Multán, and on the south-east by the river Sutlej, which separates it from the State of Baháwalpur. The shape of the district may be said to be a rough parallelogram, the sides running at right-angles to the rivers Sutlej and Rávi forming its breadth, and those running parallel to them its length. The river Rávi divides it into two unequal portions, of which that lying in the Bári Doáb includes about a third of the whole area. From Thatha Suratan on the Lahore border, near Bucheke, to Bub on the Rávi, where it enters the Multán district, the extreme length is about 90 miles. The extreme breadth, from Sáhibewála on the Satlaj to the Mari road on the Jhang boundary, is 74 miles. It is divided into four *tahsíls* by two lines running roughly parallel with the sides of the parallelogram; of which that of Gugerá lies to the north-east, Dipálpur to the south-east, Montgomery to the north-west, and Pák Pattan to the south-west. Of the whole area of the district, not much more than a third is included within village boundaries, the remaining two-thirds constituting the great grazing grounds of the *bár*, and being the property of Government.

Some leading statistics regarding the district, and the several *tahsíls* into which it is divided, are given in Table No. I on the opposite page. The district contains no towns of more than 10,000 souls, Kamália with a population of 7,594 being the largest. The administrative head-quarters are situated at Montgomery, on the line of rail between Multán and Lahore. Montgomery stands fifth in order of area, and 23rd in order of population, among the 32 districts of the province, comprising 5·23 per cent. of the total area, 2·26 per cent. of the total population, and 0·97 per cent. of the urban population of British territory. The latitude, longitude, and height in feet above the sea of the principal places in the district are shown in the margin.

Town.	N. Latitude.	E. Longitude.	Feet above sea-level.
Montgomery ..	30°40′	73°10′	500*
Gugera ..	30°58′	73°21′	490*
Dipalpur ..	30°40′	73°42′	510*
Pak Pattan ..	30°21′	73°25′	616

* Approximate.

The high central ridge, the Dhaya.

Almost in the middle of the district, in the Bári Doáb, a ridge of high land runs from north-east to south-west, the whole length of the district. This ridge is often called the Dhaya, though the term

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The high central ridge, the Dhaya.

is more properly applied to the slope to the top of the ridge from the lowlands at its foot. This slope is generally gradual, and in places, especially on the northern or Rávi side of the ridge, almost imperceptible. The slope on the southern, or Sutlej side, is more marked, and towards the Lahore border it becomes very abrupt, and is cut into deep chasms by the rain-water running down into the valley beneath. The edge of the high bank here bears a remarkable resemblance to the right bank of the Biás as seen at Phillour. The average breadth of this ridge is about 10 miles. The country slopes down from the top of it to the rivers, the slope to the Sutlej opposite Montgomery being about 40 feet, and to the Rávi half that. The Sutlej runs at an average distance of 25 miles from the centre ridge, the Rávi nowhere at a greater distance than 16 miles; while from Chíchávatni to the Multán district the ridge forms the left bank of the Rávi. It is generally supposed that at some period in the long past, the Biás ran close under the ridge to the south, and the Rávi to the north. The latter stream, following the usual course of the Punjab rivers, edged away to the west, while the Biás altered its course and fell into the Sutlej. This centre plateau is entirely uncultivated. The soil is generally inferior and saline; in places remarkably so. With a plentiful supply of water and good cultivation the greater portion of the land could be brought to bear fair crops. When the rains have been favourable, grass grows abundantly. But even in the best seasons there are vast stretches of land where not a blade of grass is to be seen, and where even the hardy *lána*, a salsolaceous plant, is unable to live. In other places the *lána* flourishes; while in the better parts of this arid region the *wan*, *jand*, and *karíl*, relieved by a rare *farásh*, are the only plants found that can lay claim to be more than mere shrubs. Water lies from 60 to 70 feet below the surface; it is sometimes very good, sometimes so brackish as to be almost undrinkable. The quality seems better towards Multán and worse towards Lahore.

The country below the ridge.

The country between the ridge and the rivers is of a more hospitable character. The soil is generally of good quality; saline tracts are rare, and of no great extent; water is generally sweet and near the surface; vegetation is more abundant; and a considerable portion of the country is under cultivation. The *kíkar* is indeed rare, except along the rivers or canals; and the better classes of trees are, of course, still less commonly met; but the *farásh* grows in most places where there is a hollow in which the rain-water can lodge; and the trees mentioned in the preceding paragraph are more numerous and of a fairer growth than is usually the case on the ridge. The *farásh* is the only tree that flourishes in the district; and the Rávi side appears to agree much better with it than the Sutlej side of the district. The vast extent of uncultivated land forming the greater portion of Pák Pattan, the southern *tahsíl* of Montgomery, is, however, very little better than the ridge. The portion of the district on the right bank of the Rávi differs but little from that in the Bári Doáb. Beds of *kankar* are found in it, and this seems the principal point distinguishing the two portions of the district. Cultivation is chiefly confined to the land close along the rivers and to the tracts irrigated by the inundation canals in the Dipálpur and Pák Pattan *tahsíls*.

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The *bár* and its sub-divisions.

The uncultivated tracts of the district are known as the *bár*. They are thus described in Lieutenant Elphinstone's Settlement Report:—

"This waste is divided by the Játs of the Bári Doáb into four distinct tracts—the Rávi *bár*, or jungle traversed by the old Rávi; the Ganji *bár*, which occupies the crest of the ridge called Dhaya; the Biás *bár*, traversed by the bed of the old Biás; and the Nili *bár*, which intervenes between the latter and the cultivated lands adjoining the Sutlej. The Ganji *bár*, as might be expected from its elevated situation, is the most arid and naturally barren portion of the whole district. The other divisions of the *bár* jungle are chiefly composed of soil of good quality, which only requires irrigation to produce remunerative crops. The Rávi *bár* is at present remarkable for the dense forest with which it is clothed. This belt of forest, known as the *farásh* jungle, extends for about 40 miles from Chúchak, in *parganah* Gugerá, to Harappá. The jungle waste, which extends from the cultivation on the Rávi to that of the Chenáb in the Jhang district, is known by the name of Sandal *bár*. Its soil appears generally inferior to that of the Bári Doáb; and water in this tract is said to be procured with some difficulty, and to be of inferior quality."

The upland of the Rachná Doáb.

In the Sandal *bár* the ground rises so as to form a high ridge similar to that in the Bári Doáb. It is thus described by Lieutenant Elphinstone:—

"The upland of the Rachná Doáb is neither so distinctly marked, nor, apparently so elevated as that of the Bári Doáb. The latter rises abruptly from the plain to the height of about twenty feet; but the former merges so gradually into the lowlands, that in many places the changes of soil and vegetation alone indicate that the level of the Dhaya has been reached. Where abruptly separated from the plain, I have never seen the bank exceed five feet in height. I have already observed that in the Bári Doáb the Dhaya gradually approaches the Rávi, and at last constitutes the left bank of that river. But the upland of the Rachná Doáb preserves a uniformly parallel direction with the river, leaving an intervening space of about ten miles for the cultivation and lowlands."

The rivers.—The Sutlej.

The Sutlej, as before said, forms the south-east boundary of the district, separating it from the Mamdot *iláka* of the Ferozepore district, the Fázilka *tahsíl* of Sirsa, and Baháwalpur. The Rávi intersects the northern *tahsíl* of Gugerá and Montgomery. A hill torrent—the Deg—joints it on its right bank at Ghatta Phakní. These are the only natural streams of the district. Two *tahsíls* adjoin the Sutlej—Dipálpur and Pák Pattan. In the former the river is generally called the Sutlej, in the latter, it is more frequently spoken of as the Nili, or the "blue" river. It is not known as the Ghára; that term is applied to the upper portion of the Khánwáh canal. The course of the river is tolerably straight. But it is very changeable. It is impossible to say where it may be any one year. Whole villages,—indeed clusters of villages,—are one week on the right bank, the next on the left. This capriciousness is the cause of considerable expense in keeping open the heads of inundation canals, and sometimes leads to the failure of the water-supply in them when most needed. During the rains the Sutlej is broad, deep, and rapid, and often very destructive in its course. It is about one mile broad and four feet in mean depth, though deep channels are to be found in places with 10 to 20 feet of water; and it has a mean velocity of four feet per

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The rivers.—The Sutlej.

second. The discharge is about 100,000 cubic feet per second. The surface slope of the Sutlej varies much in short lengths, and has been found to range from 1 in 10,150 to 1 in 3,333. On long reaches, however, the variation disappears. In the 19 miles from Ganda Singh to Betu, the average surface slope was found to be 1·03 feet per mile; again, in the 36 miles from Betu to Lálu Gudar, the slope was 1·13 feet per mile, the average over the whole 55 miles being 1·09 feet, or 1 in 4,844. Of late years the stream has set against the extreme southern point of the district, and some villages have been almost completely washed away. The inundations of the Sutlej have diminished greatly in extent in Montgomery since the old Settlement in 1858, and most of the villages on its bank have suffered severely from their failure. They are, however, very far from being always an unmixed blessing. Sometimes they score the ground so that it cannot be ploughed. This is called *khálmár*. Again, they cover the soil with a deep deposit of sand, and so convert fertile tracts into deserts. In short, the inundations of the Sutlej, though of great importance, vary so much in extent and quality of the soil deposited, that in an agricultural point of view they must be considered very inferior to those of the Rávi. The bed of the Sutlej is broad and sandy, and the bank generally abrupt, but not more than 10 to 12 feet high. Large islands are found in the river. These are known as *donás* in Dipálpur, and as *biláras* in the lower part of Pák Pattan. The volume of water in the stream in the cold weather is considerable; the average lowest discharge for 12 years being about 7,600 cubic feet per second. The river is not fordable in Montgomery. There is a considerable traffic on it, principally from the marts of Ferozepore and Fázilka. This is carried on in large native boats called *tárak* of considerable tonnage, some being capable of carrying 1,000 maunds. When the wind is favourable, they can sail up the stream; when not, they are towed by men on the bank. The boats have one mast and large lateen-like sails. The length of the Sutlej, conterminous with this district, is about 109 miles.

The Rávi.

The Rávi has a shorter course than the Sutlej, and is a much smaller river. Its course is exceedingly tortuous, so that its length in Montgomery is not less than 165 miles. Its banks are generally well defined. The bed is less sandy than that of the Sutlej, and the soil deposited by the floods is said to be of exceedingly good quality. The river carries down a large volume of water in the rains, but is of very moderate size in the cold weather. It is fordable in many places, and in some not more than 50 yards across. Of course, with such a small stream, islands can be rarely formed. The average cold weather discharge is about 880 cubic feet. The opening of the Bári Doáb Canal has naturally caused a great diminution in the amount of water in the stream during the cold season; but it may be doubted whether it could seriously diminish the supply when the river is in flood. The continued failure, in whole or part, of the inundations of the Rávi can therefore hardly be attributed to the canal, especially as a similar failure has occurred on the Sutlej. Whatever the cause may be, the Rávi villages have suffered very severely from this failure of the floods. As the fall of the river is much less than that of the Sutlej, the volume smaller, and the soil of the banks of firmer quality, the

adjoining villages are less liable to be completely annihilated than they are on the southern river. The traffic on the Rávi is very inconsiderable.

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The Deg.

The Deg is a hill torrent, depending entirely on the rains for its water-supply. It is supposed to rise at Parmandal, in the Jummoo hills, and after flowing through Siálkot, a small portion of Gújránwála and Lahore, it enters the Montgomery district at Thatha Suratan near Bucheke. After a course of about 35 miles it falls into the Rávi at Ghatta Phakní Hithár. It is about 66 feet broad and 11 feet deep. When heavy rain falls in the upper courses of the Deg, the stream overflows its banks and inundates the surrounding country. Irrigation is carried on from it by *jhallárs;* and water-courses are also used. But as the bed of the stream is much below the level of the country round about, the water is always liable to flow back into the river from the water-courses on the subsidence of the floods. No alluvion or diluvion takes place on the Deg. The question of turning the water of the Rávi into the Deg has been several times considered. Ranjít Singh is indeed said to have done so; and the traces of the canal he dug for the purpose were visible some time ago at Sháhdara. The result appears to have been unsatisfactory. Mr. Morris, the Settlement Officer of Gújránwálá, made proposals for a similar undertaking, but they were considered impracticable. The inundations of the Deg are said to be very fertilizing, and here, as in Lahore, the best rice in the district is grown on land irrigated by them. But the superior quality of the rice appears in a great measure due to a superior method of cultivation. As is the case in respect of the two large rivers, the floods of the Deg are no longer so extensive as they were. This is probably due to the increase of cultivation, and consequent greater demand for water than existed during the troublous times of the Sikh rule. At one time the stream is said to have inundated a tract of country nearly a mile in width; at present only a few hundred yards on each of its banks are irrigated from it. Formerly the Deg ran alone for a considerable distance further south. The country about Kamália, known as *jhangar*, used to be irrigated by it, as was also the tract of lowland between Pindi Shekh Musa and Garh, called, *Deg-khádi, i.e.*, the *hádar* of the Deg. This low-lying land is separated from the Rávi by an elevated belt of land about four miles broad. At the Settlement of 1858 it used to suffer from over-inundation of the Rávi, but now it has shared the common fate, and suffers from want of water. The Rávi is said to have joined the Deg about the time of the downfall of the Moghal empire.

Budhs, or river-inlets.

Along the rivers numerous inlets or creeks are to be found. Sometimes a branch of the river runs all the year round through these, as is the case with the inlet at Rattake, on the Sutlej. But generally the entrance to these channels or creeks is higher than the cold weather level of the rivers. During the floods they are filled; and when the rivers fall they are transformed into lakes; a considerable quantity of water remains, which is used for irrigation by means of *jhallárs*. These inlets are known as *budhs*. There are eleven such on the Sutlej and forty on the Rávi. They are the places most suited for the heads of the small water-courses the people construct. For as they are withdrawn from the main course of the stream, there

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Budhs, or river-inlets.

is less chance of the head being swept away; and as the velocity of the water falls off when it enters one of these inlets, the sediment it brings down settles to a considerable extent in the *budh*, and so the silting of the water-courses is checked. Most of the fishing of the district is carried on in the *budhs*. As a rule, the water in them does not last till the rivers rise again. Indeed in many cases it does not last long enough to mature the spring crops.

The canals.—The Nikki.

There are four inundation canals with the management of which Government is connected more or less, and the administration of which is described in Chapter V. One from the Rávi, called the Nikki, is managed by the Deputy Commissioner; the remaining three—the Khánwáh, the upper Sohág, and the lower Sohág—are under the control of the Canal Department, and form part of the Upper Sutlej Inundation Canal system. The Nikki is, as its name implies, but a small canal. It is said to be artificial, and to have been dug as far back as the time when the kings of Dehli still held the country. It begins at Bastikesah, in the Gugerá *tahsíl*, almost due south of Saiyadwálá, and after a course of about 20 miles, joins the Rávi again at Sharin, a short distance to the west of Pindi Shekh Musa. It is in the Bári Doáb. Originally the river ran close to Bastikesah, but afterwards abandoned this bed and began to flow to the north. The old bed forms one of the *budhs* already mentioned; and when the river is in flood, the old bed is filled, and the canal supplied from it. In 1850 Major Marsden improved the Nikki by clearing out the channel near the mouth and straightening it at Juta. Nothing else has been done to increase its irrigating capacity, but it was secured by a dam in 1855-56. It was cleared out in 1879, and several dams constructed on it, while the head was moved up the rivers to Mangan. Its breadth is about 30 feet, but in places less. Irrigation is by *jhallárs*, and by flow from water-courses or *chhárs*. There are 25 of these. There are eleven *bands*. The lowest at Aláwal is never broken; but each of the others, commencing from the top, is broken as soon as the villages irrigating from it have got their supply. The *bands* are repaired by the villages to which they belong; the *chhárs* are cleaned out by those getting water from them. The area irrigated is measured up every year, and a uniform cess of eight annas per acre is collected by Government. Thirty-two villages are benefited by this canal; but the supply of water is uncertain. The average area irrigated annually from 1857-58 to 1871-72 was 1,775 acres. The area for the subsequent years are as follows:—

Year.	*Acres.*	*Year.*	*Acres.*
1872-73	1,672	1878-79	...
1873-74	1,179	1879-80	232
1874-75	254	1880-81	852
1875-76	1,389	1881-82	481
1876-77	3,572	1882-83	260
1877-78	123		

The canals.—The Khánwáh.

According to popular tradition, the Khánwáh, the upper and the lower Sohág, are all parts of one and the same hill stream called the Vein or Bein, a name which, according to the dictionary, implies an irregular stream with a clay bottom like a canal. There are two

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The canals.—The Khánwah.

streams of this name in the Jálandhar Doáb. The one flowing through Kapúrthala is said to have run in old days, before the Sutlej and Biás had changed their courses, between these rivers through the present Bári Doáb. The Sutlej, shifting to the west, cut this stream in two. The portion in Jálandhar continued as before, while the other portion, which had been cut off and was consequently called *Ghára*, became dependent for its water on the Sutlej. When the river was in flood, water came down this channel as far as Hujrá, and then ran through the Gandobár *nallá* into the old Biás. When Mirza Khán, the Khán-i-Khánán, was governor of Lahore, he improved this water-course, chiefly by constructing an inlet or head on the Sutlej, connecting the *nallà* with the river, about 20 miles above its former point of communication; and by erecting dams and embankments along the course of the canal. He is said, too, to have extended the canal so that water went down it, as far as *nallà* in Pák Pattan, probably through the local *nallà* called the Ghuri.* The canal below Hujrá was, after these extensions were made, called the Khánwáh. After the Khán-i-Khánán nothing seems to have been done for a long time to improve the canal. It of course silted up, and it was only in heavy floods that any water came down. The flourishing "town of Dipálpur "became depopulated, and the whole *talúka* of Hujrá would have "become as desolate as the region now traversed by the old Biás, had "it not been for an occasional supply obtained at high floods by the old "channel which previously formed the inlet of the *nallà*." If the Moghals did nothing, the Afgháns of Dipálpur, and the Sayads of Hujrá, who succeeded them, were not more energetic. It was not till after Ranjít Singh had occupied the country that any effort was made to restore the canal. In A.D. 1807 Díwán Rádha Rám, the *kàrdàr*, repaired the head and cleared out the channel. The canal after that flowed steadily during the rainy season till 1823. The next year it silted up. Jawand Singh, Mokal, then held *talúka* Dipálpur in *jàgìr*, but did nothing. Bába Bishan Singh was at Hujra: he did nothing. But in 1841 Fakír Chirágh-ud-dín, under orders of Máhárája Sher Singh, had the canal cleared out and a new head dug at Mamuki, still known as Sher Singh's inlet, but long since abandoned. Shortly after annexation the canal was made over to the Canal Department, and has since been greatly improved. It was lengthened, and now tails into the Pára *nallà* at Mahmúdpur on the Pák Pattan and Gugerá road. In 1853 three *ràjwàhs*, or large distributing channels, were made.—(1). The Northern Rájwáh, from the bridge at Hujrá to the bridge at Nathu Sháh, sixteen miles long. (2). The Southern Rájwáh, from the bridge at Hujrá to the bridge at Dipálpur, eleven miles long. (3). The Bháwal Dás Rájwáh, from the bridge at Dipálpur to the village of Bháwal Dás, five miles long. The banks of the canal are covered with trees of various kinds; while *sarr* (*saccharum munja*) grows abundantly along the *ràjwàhs*. The Khánwáh has at present (1884) three supply heads, varying in length

* The Ghuri *nallá* rises in the low basin near the village of Rám Parshád, about a mile north of Jindran on the Khánwáh, and runs nearly due west past Chishti Shams Dín and Kila Sondhi Singh, and falling into the old Biás near Rajgarh, about 4 miles north of Hujrá. It is only 8 miles long. Thus the water of the Ghuri would have to flow for some 30 miles down the old Biás to reach the *nallá*. The Ghuri *nallá* still receives spill-water from the Khánwáh during the flood.

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from half-a-mile to two miles. The set of the river decides which head can be used in any year. The canal proper commences near the village of Mattar; and its length thence to Mahmúdpur, where it tails into the Pára *nallà*, is 81·6 statute miles. For the first 43 miles, as far as Hujrá regulator, the bed width is 60 feet and the longitudinal slope 1 in 6,000. Below Hujrá the bed width is 40 feet, which is gradually reduced to 20 feet at the tail. From Hujrá to Dipálpur the slope is 1 in 5,263, and thence to the tail 1 in 4,000. There are masonry regulating bridges at Hujrá and Dipálpur, and masonry stop-dams at Kachcha-Pakka and Mahmúdpur, also a masonry bridge at Nathu Sháh. The discharge of the Khánwáh ranges up to 2,600 cubic feet per second during high floods.

The canals.—The upper or new Soház.

The two Sohágs formed one stream, and are said once to have been part of the Bein. The Sutlej first cut this river near Lálu Gudarke, a little to the south of Atári. Then, again, at Panjgiraian, a cluster of villages to the south of Mamuki. In fact, the story is that the Bein ran in the shape of a printed S, and the Sutlej cut it first at the bend to the right, and then at the top over the bend. And there is no doubt that the upper Soház *nallà*, after leaving the river, runs in a curve and rejoins it. Still it is hard to see how the Khánwáh and the two Sohágs could be part of the same stream. It may be that the Khánwáh represents the Kapúrthala Bein, while the upper and lower Sohágs are continuations of the eastern Bein. It seems highly probable that the Sukhnye, which runs through Mamdot, and debouches into the Sutlej opposite Lálu Gudarke, is the connecting link between the Soház and the Bein. It is quite evident that when the Sutlej changed its course to the north and joined the Biás above Ferozepore, it must have cut both the Beins in the upper and lower portions of their course. The upper Soház does not seem to have been used as an irrigation channel till A.D. 1827, when Sardár Jawand Singh, Mokal, the *jàgìrdàr* of Kanganpurah, in Chunián, dammed up the Dhan *nallà* at Jhang Abdulla Sháh, by which the water of the Soház used to escape, and brought this water through the Bhus *nallà*, which joins the Soház near Ghara Singh, into his lands. About 1840 the mouth of the new Soház closed up. In 1854 the Canal Department took charge of it, and erected a dam near Jhang Abdulla Sháh, and cleared out the Dhan *nallà*, and extended it so as to carry the water of the Soház into the Khánwáh, near Bungí Gursa Singh. Next year the dam was pulled down, and the channel cleared out to Kaler Kalán, and continued thence to Táhir, a little to the west of Basírpur, on the Dipálpur and Fázilka road. In 1864 a further extension was made, and the canal carried down a new cut to Bunga Haiát, in the Pák Pattan *tahsíl*, and thence alongside the Dipálpur and Pák Pattan road to the Pára *nallà*, into which the surplus water escapes. On account of so much of the canal being new, it is known as the new Soház (*Sohàg jadíd*). The upper Soház canal has at present (1884) four supply heads varying from half a mile to $2\frac{3}{4}$ miles in length. The canal proper commences at Lála, and is divided into two portions—the upper (from Lála to Táhar) 27 miles long, and the lower (from Táhar to the tail at the Pára *nallà*) $28\frac{1}{2}$ miles, or a total length of $55\frac{1}{2}$ statute miles. In the upper portion the bed width is 40 feet with a longitudinal slope 1 in 6,000, while lower

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down it is gradually reduced to 15 feet at the tail with a slope of 1 in 4,000. The discharge of the canal ranges up to 1,400 cubic feet per second in high floods. There are no masonry works or regulators on this canal. In 1865 two *ràjwàhs* were dug—one from Gama Wagra to Bunga Salewál, five miles long; and the second from Bháwal Dás to Bapparwál, seven miles in length.

The canals—The lower or old Sohág.

The lower or old Sohág (Sohag Kohná) issues from the Sutlej at Lálu Gudarke. The portion of the *nallà* occupied by the canal is but small. The size of the *nallà* may be imagined from the fact of its carrying capacity being estimated at 10,000 cubic feet per second, or about one-third more than the average cold weather discharge of the Sutlej and Biás united. The Sukhnye, of which the Sohág seems a continuation, is much smaller, but the Sohág has been enlarged by the floods of the Sutlej pouring down it. About 110 years ago, when the Sikhs were defeated at Kutbwála by the *Dìwàn* of Pák Pattan, many of them were, according to popular tradition, drowned in the Sohág. About 60 years ago the *nallà* had so silted up that but little water came down. About A.D. 1816 a dam was erected at Nandpur; and fifteen years later the energetic Jawand Singh, Mokal, ran up another at Jassoke Sohág, and drew off the water by a cut called the *lakhi* into his *jàgìr* of Dipálpur. The first year's returns were said to be worth a *lakh*; hence the name of the cut. After two years the Haveli *kàrdàr* destroyed Jawand Singh's dam after a little fighting; next year Jawand Singh built it again; but two years later it was finally demolished by the *kàrdàr*. About thirty years ago Mahtáb Rái, the *kàrdàr* of Haveli, dug a new head near Lálu Gudarke. By 1858 the supply of water had so diminished that irrigation was only possible by lift. Up to 1863 the canal remained in charge of the district authorities; but on its total failure then it was made over to the Canal Department. Its irrigating capacity is very small. The canal extends only as far as Haveli, where there is a dam across the *nallà*. The Nandpur dam has been broken through. This canal is now (1884) being entirely remodelled and enlarged. When the works are complete, it will command an area of over 182,000 acres, mostly barren waste, the property of Government. The new canal will have a bed width of 60 feet at the head at Táli Bágar, narrowing to 45 feet at the Pára bifurcation (above 39 miles distant), where there will be a masonry regulator. The bed slope is designed at 1 in 7,000 for the first 26 miles, thence to the bifurcation 1 in 6,000. The Para branch will be 38 miles long with a bed width varying from 25 to 15 feet, and a bed slope of 1 in 6,000. The Sohág branch will be about 33 miles long with similar bed widths, and a slope of 1 in 5,000. The *ràjbahàs* have been designed; the Haveli 3½ miles long, and the Pák Pattan 8½ miles long. The calculated average discharge of this new canal for the whole season (April to September) is 480 cubic feet per second, the average monsoon discharge being 770 cubic feet per second. The project now in course of execution will, it is believed, irrigate an area of 61,000 acres, and it is probable that it will hereafter be further enlarged, so as to carry a much greater volume of water.

Other irrigation channels.

Besides these four canals there are some other irrigation cuts from the rivers. These are under the control of the people of the

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Other irrigation channels.

villages to which they belong. The most important of them are the *nallá* Wáh and *nallá* Jherkú, from the Rávi in the Montgomery *tahsíl*, and the Kamálwah, *chhár* Machhi Singh, and *chhár* Goláb Ali, from the Sutlej in Pák Pattan. The *nallá* Wáh leaves the Rávi at Hazára Mahtam, and flows as far as Arazi Panju. Portions of 23 villages are irrigated from it. It is kept in order by the people of Miran Sháh, Tibbi Jai Singh, Dád Biloch, and Karm Biloch. These villages construct dams on it as they please. They and Karyál derive most benefit from it. The last village also assists occasionally in clearing the channel.

The *nallá* Wáha.

The *nallá* Jherkú.

The *nallá* Jherkú issues from the Rávi at Kund Kaure Sháh, and rejoins it at Chakbandí Nathu Amír and Chakbandi Barkhá. It is known by the said name from its mouth to Muhammadpur; thence to Giloi as the Chura, and after that as the Sukhráwa. The channel has a dam at Dád Fatiáná, constructed by the *zamíndárs* of the neighbouring villages about thirteen years ago. The number of estates benefiting from the *nallá* Jherkú is 117. On the right bank of the Rávi, about Kamália, are ten water-courses or *chhárs* which irrigate portions of 59 estates, amounting to nearly 3,000 acres. They were dug at the instance of a former *talúkdár* of Kamália; and up to Sáwan Mal's time the government officials took care that they were kept in order.

Kamália *chhárs.*

The Kamálwah.

The Kamálwah is said to have been dug by one Khán Kamál, the governor of Dipálpur, in Akbar's time. Probably, he only improved it. In places the channel is deep and well defined; in places scarcely perceptible. For many years no water came down it, till in 1868 the people of Sádik, Chhiná, and 23 other villages, constructed a dam across a *budh* near *chak* Dádu Ahloká, about six miles to the west of Pák Pattan, and dug a water-course into the Kamálwah from this dam. Since then these villages get some water for about two months in the year; but the supply is precarious, as the dam is constantly breaking, and the Sutlej is more uncertain than usual about the place the *budh* is situated. *Chhár* Machhi Singh was dug by Machhi Singh, an influential *zaildár*, about sixteen years ago. It irrigates fifteen estates belonging to him. He also allows the *zamíndárs* of adjoining estates to irrigate from it on payment of certain dues, fixed by agreement. This water-course issues from the *budh* at Shekheke, 16 miles south-east of Pák Pattan. A little further down the river is Goláb Ali's *chhár*, which irrigates five estates. It was dug about 24 years ago by Pír Goláb Ali, a man much respected in these parts. It leaves the river at the Tibbi *budh*, and runs as far as Sital Gand. There is a third *chhár* in this neighbourhood belonging to one Murád Sháh.

Chhár Machhi Singh.

Chhár Goláb Ali.

Chhár Murád Sháh.

Katora canal.

Although the Katora canal lies entirely in the Lahore district, yet a small area of the Montgomery district is watered from it. Only one village (Malla Fatiáná) has a regular irrigation outlet from the Attári *rájbaha* of the Katora canal, from which about 40 acres are annually irrigated; but during high floods in the Sutlej the terminal retaining *band* of the Katora is occasionally breached, and water flows down the bed of the old Biás, from which 18 villages of the Montgomery district are thus enabled to irrigate.

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Drainage channels and dry *nallás.*

A glance at the map will show the remarkable manner in which the whole district between the central ridge and the rivers is cut up by old *nallás*. These are not only interesting to the antiquarian and student of history, but are also of considerable importance, as regards the extension of irrigation in the district, as most of the proposals to this effect make the utilization of one or more of these channels their basis. In some of these *nallás*, bordering on the rivers, a precarious supply of water is even now obtained. The principal *nallás* are, between the Rávi and the ridge :—

The Wahni ;	The Sukhrawa (1) ;	The Sukhrawa (2).

between the ridge and the Sutlej :—

The old Biás ; The old Sohág, with its off-shoots— (*a*) The Pára ; (*b*) The Dhádar ;	The Khád ; The Ding, with its branches— (*a*) The Bhág ; (*b*) The Dhingi ; (*c*) The Kubrár ;	The Diwánwah ; The Ghag ; The Bakhílwah ; The Bisharat.

Nallás of the Rávi. Wahní.

The Wahní leaves the river at Daula, a little below Saiyadwála, in the Gugerá *tahsíl*, and runs nearly due south past Satgharáh. In high floods, water reaches nearly to this town. Proposals have been made to utilize this channel, but they were not approved of. The two Sukhrawas are thus described in the Settlement Report of 1858 :—

The Sukhrawas—(1) The smaller Sukhrawa.

"The name Sukhrawa is applied to two different *nallás*, both running nearly parallel with the Rávi at distances respectively of four and eight miles. One of these passes near the station of Gugerá, dividing the civil lines from the lands attached to the village of that name. It communicates with a *jhíl* near that river, from which it obtains a supply of water during the rains ; but this supply is so precarious that very little use can be made of it for irrigation purposes. The other *nallá* has no communication with the river. It traverses the jungle which intervenes between the margin of cultivation and the Dhaya or high bank. Its course is remarkably winding and intricate, and it sends out branches, which intersect the plain in every direction. Both these *nallás* are said by the natives to mark the course of the Rávi at different periods. The width alone, however, of the first *nallá*, which nowhere exceeds twenty yards, precludes every possibility of this belief regarding its being founded on fact. The second *nallá*, on the other hand, has undoubtedly been at some former period an important water-course. It is about eighty yards across, and though its course is much more intricate than the present bed of the Rávi, the open ground in its vicinity, and extensive patches of sand near its banks, render it possible that the tradition of the natives in this instance may be correct. In that case the Dhaya, which skirts it at no great distance, would have formed the limit of the inundations, as it still does at present in a portion of the Harappá *tahsíl*. That both the old Biás and the Sukhrawa, especially the former, contained at one time a sufficient body of water to admit of irrigation being conducted on their banks, cannot be doubted. The remains of abandoned villages and the ruins of brick buildings and forts, which show that some of these places must have had pretensions to importance, are still scattered over the whole of the desolate tract ; and from the well-known habits of the present population, we can assume with some confidence that only a total cessation of the supply of water in these ancient river beds could have effected so remarkable a change."

(2) The large Sukhrawa.

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The Sutlej *nallás*.
The old Biás.

The old Biás *nallá*, after passing through a portion of the Lahore district, enters the Dipálpur *tahsíl* near the town of Shergarh, and traverses the whole of the Montgomery district at a distance of about twenty miles from the Sutlej. The popular story is that till the end of last century the Biás, instead of joining the Sutlej near Ferozepore, flowed down this *nallá*. Lieutenant Elphinstone doubted the correctness of this story, on the ground that the *nallá* could not carry the volume of water in the Biás, which is a very convincing reason. As in the Aín-i-Akbari it is distinctly stated that the Biás and Sutlej united twelve *kos* nearer Ferozepore, the story may be dismissed as fiction. The subsequent change in the point of junction is due to the Sutlej, and not the Biás, having shifted its course; still it is a fact that water came down this *nallá* till a comparatively short time ago. The year 1750 is fixed as the date it ceased to flow. There seems no reason to doubt that the *nallá* was a branch of the Biás: there is nothing to connect it with the Sutlej. In order to ascertain what it originally was, it will be necessary to determine whether, when the Biás river ran under the Dhaya, it was at such a distance from this *nallá* that both could have been independent streams. This might possibly have been the case in Montgomery. The question is, could it in Lahore and Multán? If so, the old Biás may be simply the continuation of the Kapúrthala Bein, as the Soház is of the Phagwára Bein. The *nallá* is rarely more than 200 feet across; the depth is from 12 to 15 feet. Its carrying capacity is 3,400 feet per second.

The Bakhflwah.

The Bakhílwah issues from the Sutlej at Ghulám, and falls into the Nikki, a branch of the lower Soház, at Dullá Nauábád. Formerly, nineteen villages were irrigated from it—eight by direct overflow; nine by water-courses; and two by *jhallárs*. Twenty-one years ago the water ceased to flow except in very high floods. The villages dependent on it have suffered severely.

The old Soház.

The old Soház has already been mentioned. Leaving Haveli, it runs nearly west to some distance past Pák Pattan, and there turns due south. It gets lost before it reaches the river. But it evidently ends at Shekheke, though the channel is not defined there. Its bed is sandy; the banks generally steep; it is about as deep as the old Biás, and from 200 to 400 feet broad. The name Soház is said to mean a place where verdure and cultivation abound.

The Pára.

The Pára is a branch of the old Soház, which it leaves a little below Bunga Haiát, on the Pák Pattan and Dipálpur road. The Pára is 500 feet broad at its mouth; after one mile the breadth falls to 350 feet, which is again reduced to 200 after five miles. This is maintained for forty miles. The average depth is 10 to 15 feet. A large branch then goes off to the Biás, called the Nawábbin, from a Nawáb of Multán, who is said to have dug it last century to enable his wife to come down by water to Multán. The width is here 100 feet, which gradually diminishes, till at the junction of the Pára and the Sukhnye it is only 15 to 16 feet; the depth is three feet. The banks are generally steep. The soil of the *kandhi*, or valley of the Pára, is of excellent quality.

The Dhadar.

The Dhadar branches off from the Soház about 16 miles to the west of Pák Pattan. It is a small rather shallow *nallá*, but it once irrigated an extensive tract of country. It runs west for some distance, and

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The Khád.

then south to Jamlera. The Dhummuk *nallá*, in Mailsi, seems to be the continuation of it. The Pára and the Dhadar are both Pák Pattan *nallás*. The Khád belongs to Dipálpur. It commences at Thakarke Mahmúd, about nine miles to the east of Haveli. It runs thence to Izzatke Kala. From there, one branch goes straight to Nama Jindeka, one *viá* Mulia Chishti, Nur Sháh, Kandúwál, &c. From Nama Jindeka, it goes into the Pír Ghanni *budh*. This *nallá*, which is not more than 20 miles long, is known by no less than four different names in different parts of its course. To Yara Bhílá Maneka it is called the Nikki; thence to Bukan Gudarke the Budhi; from there to Nama Jindeka, the Khád, and after that the Warnál. This is a fine deep *nallá* with very steep banks. *Jhallárs* are used on it, and sometimes there is fine *sailàb* from it. The soil on its bank is generally very bad, and impregnated with *kallar*. Among the tributaries of the Khád are the Chura, the Khohariánwála and the Kaluwah *nallás*. The first is the most important. It commences at Mushifke Mahár, and passing Bulewála, Bhai Darsan, and other villages, joins the Khád at Kanduwál. This *nallá* flows when there is heavy rain, and in heavy floods river water comes down it. The Khoharianwála is a small branch of the Khád, running from Pípal Sazáwár to Izzatke Kala. The Kaluwah runs south into the Khád at *chak* Kaluwah below Haveli. These last two *nallás* are mere rain-drainage channels.

The Chura.
The Khoharianwála.
The Kaluwah.

The Bisharat.

The Bisharat is a more famous *nallá* than the Khád, of which it is probably the continuation. It issues from the Pír Ghanni *budh*, and after a remarkably tortuous course, passing close to Pák Pattan, it falls into the Soháᵹ at Pakka Sidhár. It is said to have been excavated by one Bisharat Khán, about the beginning of the 14th century. This is clearly wrong. There are no signs of excavation, and it is incredible that any one would dig such a winding channel, even with the object of diminishing the velocity of the stream, and thereby increasing its irrigating capacity. It is from a ferry on this *nallá* that Pák Patan derived its name. It is a shallow and generally narrow *nallá*. It dried up about 80 years ago, though water has since occasionally been found in it. Proposals have on several occasions been made to open it again, but they seem impracticable. The Ding is a continuation of the Kamálwah. At Bunga Bhai Khán the Ding divides. The southern arm joins the Bhág at the corner of Jajjal Bhág and Khola Wali Muhammad. The northern arm joins the Kuhrár at Nehwál. In places this is a very fine, deep, clean-cut *nallá*. Water used to come down it up to 1853. The remains of old *jhallárs* may still be seen on it at Shekheke. There is a dam on this *nallá* at Sahu Biloch. The Dingi leaves the Sutlej at Haidar Malkana, and falls into the Ding at Bunga Bhai Khán. The Bhág is a fine *nallá* of fair size. It leaves the river at Kadus, below Kot Bakhsha, and joins the Ding at Jajjal Bhág; a dam is sometimes erected here. *Jhallárs* are used on this *nallá*, but the irrigation is scanty. This was not always so. The name implies "being very beneficial." The Kuhrár leaves the Sutlej at Kot Bakhsha, and after passing Bhai Darsan at Bara, divides into two branches; these re-unite at Jit Singhwála, and then appear to fall into the Soháᵹ, near Pakka Sidhar, but neither on the map nor on the spot can any certain information be obtained of what becomes of this *nallá*. It is broad, but, except near the river, rather

The Ding and its tributaries.

The Dingi.
The Bhág.

The Kuhrár.

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Descriptive.

The Ghág.

shallow. The Ding falls into the right branch of it at Nebwál, and some say the Kuhrár is only a continuation of the Ding.

The Diwánwah is a cut dug by Díwán Sáwan Mal from Malik Bháwal to Bohar. It has been dry for twenty years. The Ghag has its mouth at Tirsangi, and runs into the Soház at Hardo Mansúra. *Jhallàrs* are used on it, and some land is inundated from it. A good deal of water gets into the Sohág through it; so much, in fact, that the fords of the Sohág have to be staked out. There are numbers of other *nallàs*, but as they are of no importance as irrigation channels, they need not be noticed here.

Jhils.

There are no marshes or lakes (*chamb, jhíl*) in this district except a *jhìl* at Kot Fázil, where the Deg enters the district, and one near Pák Pattan, in which the Ghari *nallà* terminates. *Jhallàrs* are used on them, but they are of little depth, and the water dries up soon. The tract traversed by the old Biás is remarkable for a chain of pools at distances of some three or four miles, which used to be filled by the surface drainage, and to be of the greatest value to the graziers of the *bàr*. It appears, however, that they have dried up of late, owing to the scanty rainfall for so many years. Here and there depressions in the ground may be met with, where water lodges for some time after heavy rain.

Deserted villages. *Thehs. Kholas.*

There is nothing to show that the district was ever more densely populated than at present. But the changes in the course of the rivers, the drying up of such important water channels as the old Biás, Sohág and Dhadar, and the improvement of the inundation canals, have naturally caused a shifting of the population. In all parts of the district, mounds covered with remains of the earthen vessels and broken bricks are to be met, marking the site of what was once a village or town. These are known by the general name *theh* or *khola*, but each mound has a further distinguishing name, to which the general name is prefixed. The word *theh* seems more commonly used in the Rachná, and *khola* in the Bári Doáb. These remains of former habitations are most frequent along the old Biás and the Dhadar, and in the country about Kamália. It should be remembered that these *theh* are not necessarily the ruins of villages inhabited at the same time. If a village is once abandoned from any cause, it is considered unlucky to build a new village on the old site. So many of these mounds merely represent the same village at different periods of its existence. If the history of this part of the Punjab during the 18th century is considered, the perpetual wars, desolating famines, and the general state of insecurity, will be found to afford other and strong reasons, besides the drying up of the irrigating streams, why many cultivated tracts should have relapsed into their primitive state of waste. But to the last-mentioned cause must be attributed the fact that the land has not been again brought into cultivation. Not only has the stoppage of the water-supply necessarily led to the abandonment of land irrigated by flow, but it has been accompanied by a serious fall in the level of the water in the

Old wells in the *bàr*.

wells in the vicinity of the old *nallàs*. Numerous old wells exist all over the district; but in the *bàr* tracts the water is much below the brick-work, and if it is intended to work any of these wells, an interior cylinder has to be sunk.

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Government jungle. Scattered wells. *Kásht Khám tahsíl.* Grazing leases.

The area of lands included within village boundaries is 1,286,819 acres. The remaining 2,267,496 acres are owned directly by the Government. It has long been the custom for the people to apply to the ruling power for leave to occupy portions of the jungle; and since the introduction of the British rule these applications have become very numerous. The area of the grant is usually small—50 acres when the applicant proposes sinking a single-wheeled well, and 100 acres when a double-wheeled well is to be constructed. In many instances the object of the applicant is to secure a piece of ground where he may construct a well, or bring an old one into use to water his cattle grazing in the *bár*. A piece of lowlying ground, where rain water will accumulate, with good grass in the neighbourhood, is generally selected. A little cultivation is also carried on, the extent depending on the character of the season. These wells, scattered all over the *bár*, form, as it were, little oases in the wilderness. There are many depressions in the *bár* where the drainage water of the surrounding high lands collects. Applications are received annually for permission to cultivate the land occupied by these depressions. The area brought under cultivation depends on the extent of the rains; and the lease given is only for one year. This cultivation is known as *kásht báráni*. Excepting the land thus occupied, the whole of the Government jungle is uncultivated. A small portion is reserved for plantations of trees, but almost the whole is leased for cattle-grazing.

Rainfall, temperature and climate.

There is nothing peculiar about the climate. From May to the middle of October the heat during the day is intense, but the nights are fairly cool. Towards the end of August the mornings become a little fresh, and about the middle of September a change in temperature after sunset may be noticed. A breeze, often changing into a strong wind, blows usually at night during the hot weather. Dust-storms are not uncommon. Hail-storms are very rare. The rains set in generally about the end of June. The fall is, on an average, greatest in August. The rains, as a rule, cease in this month. In November it never rains. About the end of the year a couple of showers may be expected, and again in March. During the four months, from November to February inclusive, the days are not hot, and the nights are cold with frequent frosts.

Table No. III shows in tenths of an inch the total rainfall registered at each of the rain-gauge stations in the district for each year, from 1866-67 to 1882-83. The fall at head-quarters for the four preceding years is shown in the margin. The distribution of the rainfall throughout the year is shown in Tables Nos. IIIA and IIIB.

Year.	Tenths of inch
1862-63 ..	218
1863-64 ..	135
1864-65 ..	95
1865-66 ..	69

Disease.

The district is fairly healthy. As regards small-pox epidemics, it is one of the worst in the Punjab. They generally occur in the early months of the year. Pneumonia is common in the cold weather, caused by the intense coldness and dryness of the atmosphere. Fevers are of course prevalent, as the mass of the population is located along the banks of the rivers and in the tracts irrigated by the inundation canals. January is usually the month of most mortality, and August

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—
Geology, Fauna and Flora.

Disease.

that in which least deaths occur. The following table shows the average death-rate per thousand for each month, for seven years:—

Month.	1867.	1868.	1869.	1870.	1181.	1872.	1873.
January ..	21	17	39	33	32	21	31
February ..	17	13	41	20	23	13	23
March ..	14	15	44	17	21	17	25
April ..	9	12	28	13	19	22	23
May ..	10	19	38	19	23	21	27
June ..	11	25	23	16	18	24	26
July ..	17	14	17	13	14	22	15
*August ..	16	15	16	14	12	15	11
September ..	17	14	15	13	11	29	17
October ..	20	18	28	26	16	39	17
November ..	21	29	60	25	18	38	22
December ..	20	29	39	27	21	39	24

The high mortality in the early months of 1869 was due to an outbreak of small-pox; that in the last two months was caused by the fever-epidemics of the same year. The high death-rate in the end of 1872 was caused by fever.

Tables Nos. XI, XIA, XIB, and XLIV give annual and monthly statistics of births and deaths for the district and for its towns during the last five years; while the birth and death-rates since 1868, so far as available, will be found in Chapter III, Section A, for the general population, and in Chapter VI under the heads of the several large towns of the district. Table No. XII shows the number of insane, blind, deaf-mutes, and lepers as ascertained at the Census of 1881; while Table No. XXXVIII shows the working of the dispensaries since 1877.

SECTION B.—GEOLOGY, FAUNA AND FLORA.

Geology.

Our knowledge of Indian geology is as yet so general in its nature, and so little has been done in the Punjab in the way of detailed geological investigation, that it is impossible to discuss the local geology of separate districts. But a sketch of the geology of the province as a whole has been most kindly furnished by Mr. Medlicott, Superintendent of the Geological Survey of India, and is published *in extenso* in the Provincial volume of the Gazetteer series, and also as a separate pamphlet.

Kankar.

The mineral products of the district are few and unimportant. *Kankar* (*calcareous concrete*) is found principally on the right side of the Rávi, and in the shape of small nodules on the surface of the ground. These are swept up and used for making lime.

Saltpetre, *kallar.*

Saltpetre used to be made extensively in this district. The method of manufacture is described in "Punjáb Products." Saltpetre is made from saline earth called *kallar*, found on the site of deserted villages, and in the streets and the walls of old towns. This substance is used as a top-dressing by agriculturists. Some found at Dipálpur yielded about six per cent. of saline matter, which, on analysis, was found to consist of common salt mixed with a less quantity of sulphate of soda, and, in addition, very small quantities of lime and magnesian salt. This *kallar* must be carefully distinguished from *kallar shor*, the *reh* of Hindustán, which is most injurious to all cultivation. *Kallar shor* consists principally of sulphate of

Chapter I, B.

Geology, Fauna and Flora.

Mines, quarries.

soda. When strongly developed, *kallar shor* seems to render all vegetation, except that of *phesak láni*, impossible. A third kind of *kallar*, called *mitha kallar* or *sikand kallar*, is sometimes spoken of by the natives. It is supposed not to be injurious to vegetation. It is not clear what this substance is.* There are no mines or quarries in the district excepting some *kankar* beds.

Vegetation.

From what has been said of the character of so much of the soil of the district and of the climate, it will be at once apparent that the natural vegetation cannot be of striking grandeur or beauty. Indeed, it might be called mean and monotonous. A closer examination shows, however, that, though stunted, it is far from unvaried. The number of different kinds of grasses and other plants of low growth is considerable. But there are not more then half-a-dozen species of trees of spontaneous growth. With plenty of water the district might become very fairly wooded. There is a small *shísham* grove at Lukmán Mehrúka, in Pák Pattan, and the remains of a *shísham* wood at Koththa Jhang Shísham, near Haveli. Near the rivers there is a good deal of timber, and along the Khánwáh canal and in the villages adjoining it, more especially to the south, there is a fine belt of trees; while the abandoned station of Gugerá presents specimens of most trees found in the plains of Upper India. The trees commonly met with are the *ukhán*, *kíkar*, *ber*, *and*, *wan*, and *karíl*.

Trees.

The *ukhán*, *jhán*, *lej*.

The *ukhán* (*Tamarix orientalis*), also known as *pharwán* and *farásh*, is the characteristic tree of the district. It is an evergreen, hardy and of rapid growth; it is the only tree that thrives at Montgomery civil station. Wherever there is a hollow in the ground an *ukhàn* spring up. The timber is of little use, except for fuel. It is sometimes, but rarely, used on the Rávi for the wood-work of wells. The galls of this tamarisk, called *máin*, are used for dyeing and tanning. There is another tamarisk with whitish leaves. It is apparently not found on the Satlaj, but it is abundant between Chichawatni and Kamália on the Rávi. *Pilchi* or *jháu* (*Tamarix Indica*) and *lei* (*Tamarix dioica*)† are found on both rivers in flooded land. The difference between the two kinds is not very apparent. The twigs are used for making baskets and the cylinders of *kachcha* wells, also for fences to fields, and the sides of houses.

The *kíkar*.

The *ikar* (*Acacia arabica*) is very rare in the *bár*. It is not uncommon along the canals and rivers. The timber is used for agricultural implements. The cog-wheels of the Persian-wheel are almost invaribaly made of it. The fuel is good and much liked. The seeds are eaten readily by goats. The bark is used in tanning and in the distillation of native spirits.

Babúl.

A shrub, the *babúl*, bearing much the some relation to the *kíkar* that the *pilchi* does to the *ukhán*, is occasionally seen; it never grows to such a size as would make its timber valuable.

Kábuli kíkar. *Ber.*

The *Kábuli kíkar* (*A. cupressiformis*) is rare. The timber is weak. The *ber* tree (*Zizyphus vulgaris* ?) is not uncommon in the cultivated parts of the district. The wood is of good quality, and is used in building. It yields a fine fuel, throwing out a clear heat. The fruit is not much

* "Punjab Products," para, 144 *et seq.*, also a very interesting paper on the formation of *kallar* in the papers and proceedings of the Agri-Horticultural Society of the Punjab, January to June 1866.

† *Vide* "Punjab Products," paras. 331 and 598. The passages do not agree. The vernacular names are used indiscriminately.

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Kokan ber.
Jand.

esteemed, except in the case of the *pewandi* or grafted *ber*. The *kokan ber* or *malá* is a small bushy tree. The fruit is much eaten. Good walking-sticks are got from this tree. The *jand* (*Prosopis spicigera*) is always a small tree, rough and gnarled. The wood is strong, and is made into agricultural implements and household furniture. It is much used as fuel, and charcoal is prepared from it. But the charcoal is said to emit too many sparks to be much liked. The seed vessels, called *sangri*, are used as an article of food. This tree is met everywhere in the district, where it has not been cleared away. The great demand for fuel on the Sindh, Punjab, and Dehli Railway causes a steady decrease in the area under *jand*. The

Karíl.

karíl (*Capparis aphya*) sometimes but seldom becomes a tree. It generally remains a mere shrub. It is found throughout the district. The wood is hard ; it is used for rafters and *laths* (*barga*), principally on account of its supposed immunity from the attacks of white-ants. As fuel, it has a high reputation. The unripe fruit is called *dela*, and is used as a pickle. When ripe, the fruit is called *pinju* and is eaten in its natural state. The fruit of this shrub is a great stand-

The *wan.*

by to the poor in seasons of scarcity. The *wan* will grow anywhere in the district. A somewhat saline soil seems to suit it best. In Montgomery it remains a shrub generally ; it never becomes the fine tree it does in the Hindustáni parts of the province, where it is called *jál*. Camels are fond of its leaves, but no other animal touches them. The wood is used for roofing and fuel, but the fuel is very inferior. It burns badly, gives out a great deal of smoke, and leaves much ash. The fruit is eaten to a large extent. It ripens about May. It is called *pekri* when still unripe, *pílu* when

Pípal.
Sohánjni.

ripe, and *kokan* when dried and preserved.* Certain trees are generally grown about each well. The most common are the *pípal* (*Ficus religiosa*) and the *sohánjni* (*Hyperanthera pterygospeama*) or

The *chachhrá.*

horse-radish tree. The *chachhará* (*Butea frondosa*) is found on the Rávi, but not on the Sutlej. This is the Hindustáni *dhák;* but it never reaches the dimensions attained in the lower parts of the province. It is venerated by Hindús. The dye made from the flowers (*kesú*) and the gum exuded by the plant are well known. There are no other indigenous trees.

Plants other than trees ; and grass.

There are very few plants, other than trees, and grasses deserving of much notice. The *sarr* and the *lána* are the most important. The *sarr* (*Saccharum munja*) is found generally in sandy soil. It is abundant along the rivers and the distributing channels of the canals.

Sarr.

There are two kinds, the white-topped and the red-topped, or rather purple-topped. The ropes made from the latter are much inferior to those made from the former. Every portion of this reed is useful. It consist of three parts. The lowest is a stout reed, about half an inch in diameter. This is called *kána*, and is used for roofing houses, and forming the *bands* with which *kachcha* wells are lined, and *pallas* or circular store-houses for grain are made. Above the *kána* comes the *tíl* in a sheathing petiole called *munj*. The *tíl* is separated from the *kána*

* Mr. Purser, from whose Settlement Report the above paragraph is taken, writes:— "I had no opportunity of testing the correctness of the names *pekri* and *kokan*. They "are not given in "Punjab Products." The Punjábi name *vaur*, entered on page 507, is "not used in the Bári Doáb. *Pilu* is certainly the name of the fruit, and seems "improperly applied to the tree itself; but it may be so used locally."

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Sarr.

and pulled out of the *munj*. It is used for screens called *pakhi*,* and for winnowing baskets. The *múnj* is burned at one end, then beaten with a mallet, and finally twisted into a rope. The rope to which the earthen pots of a well are fastened, is almost invariably made of *múnj*. The price varies very much, twenty seers per rupee is about the average. This reed grows in tufts; and in land subject to inundation the limits of proprietary rights are sometimes marked out by lines of *sarr* stools. The plant is usually burned down about the end of February. Fresh green shoots are then thrown out, which are fine fodder for cows and buffaloes, and increase the supply of milk. Many villages sell the produce of this plant for a round sum annually.

Khangan khár. Gora lána. Maitár lána. Phesák láni. Sajji.

A good deal of misapprehension seems to exist about the *lána* plant. There are three kinds of *lána*—*khangan khár* (*Coronylon Griffithii*), *gora lána*, and *maitar lána* (*solsolas*). There is also a plant called *phesak láni* (*Snæda molliflora*). *Sajji* (barilla, an impure carbonate of soda) is made from the first two. No *sajji* is made from the others. The best *sajji*, called *lota sajji*, is made from *khangan khár*; an inferior quality, known as *bhútni sajji*, from *gora lána*. All four plants can be seen in the Montgomery civil station. There is no *khár* in the Dipálpur *tahsíl*; at least only stray specimens will be found; but it is plentiful in Pák Pattan. *Khangan khár* and *gora lána* are smaller plants than *maitar lána*; the first is a thicker and juicier plant than the second; *maitar lána* is usually as ugly a plant as one could wish to see. It grows four or five feet high. It is found everywhere. Miles upon miles of the Pák Pattan *tahsíl* are covered with it. *Phesak láni* is found in the Dhayas upland in huge stretches. In the lowland, there are occasionally large patches of it. Wherever it is found, the soil is bad and full of *kallar shor*. It is of a blackish-purple colour, and of no use whatever. Camels and goats eat all kinds of *lána*. Charcoal made from *maitar lána* is used by blacksmiths; while that of *gora lána* is much used in *hukkas*. Both these plants are utilized for fuel. They flower about the end of October. Some bushes have red, and some white flowers. When in flower, the three *lánas* present a very pretty appearance. The manufacture of *sajji* is described in Chapter IV.

Ák.

The *ák* (*Colotropis procera*) is common, and found generally in poor sandy soil. Goats eat the leaves; and so will cattle if hard pushed, and if the leaves have been dried. The milky substance in the ducts is applied as an embrocation in some diseases of sheep and goats. The wood is used as fuel. The alleged *anti-kallar* properties of the plant are unknown in this district. No use is made of the floss in the seed-vessels.

Pitáka.

The *pitáka* is a fibrous plant abundant about Dipálpur, near the Sarai. It has large indented cordate leaves, and bears an orange flower. It flowers about the beginning of September. The fibre is made into ropes in the same manner as that of *suni*, but the ropes are weak. The plant strongly resembles the jute plant (*Carchoras capsularis*), as described on page 242 of Dr. Royle's. "The fibrous plants of India," a resemblance extending even to the name.

Jhújhan

Another fibrous plant commonly found in cotton-fields is the *jhújhan* (*Seshania aculeata*), also called *jaintar*, but this name applies properly to a

* Hindustáni *sirki*. Remarks on page 518 of "Punjab Products" seem incorrect. Three species of *sarr* are mentioned on page 88 of "Punjab Manufactures."

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Jhújhan.

different species. This plant grows five or six feet high, and may be seen about September in any canal village. The fibre has been used, but in this district the people consider the plant as almost useless. The stalk is occasionally employed in making thatches. This supposed uselessness is the subject of a popular saying :—

Jhùjhan-dà-kì seonà,
*Jidhì dhùp na chhàwn.**

Bhophalli. *Jawàhàn.*

The *bhophalli* is also a fibrous plant, but, except as fodder for goats, it is not put to any use. The *jawàhàn* or camel-thorn (*Alhaki Maurorum*) is common enough. Good *tattìs* can be made from this plant.

Harmal. *Gilo.* *Dhàmah.* *Poli.* *Aleti or galehti.* *Gharràr madhàna.* *Bùin.* *Reshan.* *Farìd mùlì.* *Puthkanda.*

The *harmal* (*Peganum harmale*) grows in most places. It is abundant in the ground covered with broken pieces of brick about Pák Pattan. The seeds yield a black and brown dye, but are not utilized here. The *gilo* or *garham* (*Tinospora cordifolia*) is a creeper. An extract is made from the root, and is considered a good remedy in cases of fever and ague. The *dhàmah* (*Fagonia cretica*) is a small prickly shrub like the *jawàhàn*. It is in flower about the end of August. The flowers are of a light pink colour. A medicine is prepared from it. The effects are very similar to, but not so certain as those of the *gilo*. It is much used in cases of headaches, boils, &c. Native women in the villages often make use of it in a *ghùtti* or medicine given to new-born children. A plant not unlike a thistle is the *poli*. It is plentiful in spring about Gugerá. An oil is extracted by *telìs* from the oblong seeds. This is used as an article of diet. *Aleti*, commonly called *galehti*, is a small low-growing plant, with little black seeds. In seasons of scarcity these are used by the poor people, made into bread. As the bread is intensely dry, it has to be eaten with butter-milk or milk. Sheep, goats, and camels eat the plant. It belongs to the *dúdak* family, or that in which the plant contains milky juices. The flower is yellow. It appears in the beginning of August. *Gharrar madhàna* is a plant growing about 18 inches high. The seeds are small and dark red : they ripen about the middle of August. The plant is considered good fattening fodder, especially for horses. The flower is supposed to resemble a churning staff (*madhàni*); hence the name. This plant is hardly a grass. There are two kinds of *bùin*, the white and the black *bùin*. The former is the more common. It is usually found in light sandy soils, and is a guide in determining the quality of the soil. It is, however, far from being a certain guide. Camels eat the plant, and villagers apply it to boils and pimples. It is supposed to ease pain. Another plant, almost invariably found in poor light soils, is the *reshan*. But it is met with elsewhere. It grows about a foot high, and has a flower of the same shape and colour as that of a thistle. It abounds between the old Biás and Dipálpur. The *farìd mùlì* or *farìd bùtì*, also called *làthia* (*Farsetia Hamiltonii*), is very common. It is a small plant with pink flowers. The seeds are said to be poisonous, but were habitually used by Bába Faríd Shakarganj when he was hungry. The *puthkanda* (*Achyranthes aspera*) grows five or six feet high. It has but few leaves, and those near the

* Why take any care of the *jhùjhan*, which yields neither sun nor shade?" *Vide* "Punjab Products," pages 342, 508.

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ground. The long slender stems are covered with thorns which lie back close to the stem with their points directed downwards, hence the name *puth*, meaning the wrong way, and *kanda*, a thorn. The stem is used for cleaning the teeth; and the seed and leaves are employed medicinally. *Itsit* is a plant that grows along the ground. It is entered as a grass on page 245 of "Punjab Products," but it is not a grass. It is very like *chaulài* (*Amaranthus frumentaceus*). But the latter grows upwards. *Itsit* is of no use; but *chaulài* is used as a vegetable by poor people. Owners of dogs will soon become acquainted with the plant called *bhakra* (*Tribulus terrestris*). The spiked fruit of it constantly sticks in the feet of dogs, causing them to limp. The *hàthi-sùndi* is a plant which is not mentioned in any of the books under that name. The fruit is said to resemble the trunk of an elephant; and hence the name. Among other plants commonly found may be mentioned the *gowára*, *majehtrà gandi búti*, *ratkán*, *bukkan*, *khàb* or *kàla míra*, *babùna*, *soi*, *pàlak*, *pàra*, *aràri* and *chilitra*. The last three are generally met with in lowlands flooded by the rivers.

Itsit.

Chaulài.

Bhakra.

Hàthi-sùndi.

It remains now to briefly mention the more common grasses. The most common is *chhimbar*. It is a low growing grass with round culms, and throws out runners. It is found in good sweet soil, and is readily eaten by cattle. The flower is called *phumni*; *chhimbar* is not unlike *khabbal* or *talla* (H. *dabh*); but the blade of the latter is much broader and the whole leaf-branch larger and flatter than that of the *chhimbar*; and the stems thrown out at the joints of the *khabbal* are horizontal, while those of the *chhimbar* are vertical. The *khabbal* is an excellent grass and found only in good soil. *Talla* is not to be confounded with *talli*, which is something like a shamrock, with leaves of a bright rich green colour. It is found in inundated land where the soil is good. It is a fine food for buffaloes, cows, and bullocks. *Dabh* is a coarse strong grass, which remains green most part of the year. The leaves are long, narrow, flat, and have a tendency to curl up. They are used for thatching and for covering the floors of mosques. The roots are coarse and long, and grow down to a point; in fact form a triangle with the apex at the bottom. It is not a strengthening grass. The long slender flower is pretty. *Lonák* is also a poor grass, except when green; and then even it is of only middling value. Cattle do not care for it much. It is often found in somewhat saline soils. The culms are round and slender, and generally about 18 inches high. Sometimes it grows as high as 30 inches. On the other hand, *dhàman* is a fine grass, and is said to increase the yield of milk of animals eating it, and the quantity of *ghi* obtained from the milk; but horses will not eat it, as it is bitter. The leaves are long and flat. The plant grows vertically. The head, which is not unlike that of *kangni*, is black when unripe, and white when it has come to maturity. The *palwàhan* is a tall grass, generally several feet high, with slender stems and flat narrow leaves. It is usually found in good soil. By some it is considered the best of all grasses. There are four flower-stalks at the end of each culm, bearded like barley. The grass is of a purple colour. *Kheo* is a grass consisting of slender round stems growing straight up. *Gharm* or *gharb* is a tall, coarse grass with a woody stem.

Grasses.

Chhimbar.

Khabbal or talla.

Talli.

Dabh.

Lonák.

Dhàman.

Palwàhan.

Kheo.

Gharm.

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Dhiddan. *Sawànk.* *Kùrì.* *Kúra.* *Khawì.* *Panni.* *Dìla.* *Murk.* *Murkan.* *Lamb.* *Chinikkì.* *Lùki.* *Lùmbar.* *Kanh* *Maina.* *Salyàra.* *Itsit* *Leli.*

It is often found growing round a *karìl* bush. Goats and camels are said not to eat it. It is an inferior grass. *Dhiddan* is not unlike *kheo*. It is common in the *bilàras* of Pák Pattan. It grows about two feet high. It is sometimes called *sarkùli*. It should not be confounded with a plant found in rice-fields of the same name. This is not unlike wild *sawànk*; but *sawánk* grows more horizontally than *dhiddan*. *Sawànk* is of two kinds—*bìjwàn*, or cultivated, and *saia* or wild. The wild *sawànk* is a good grass. It fattens and brings cattle into condition soon. The grain is small and eaten by Hindús on fast days. It is also used by poor people, made into paste called *bhàt* or *phàt*, and eaten with milk or butter-milk. It grows in firm soil. *Kri* is a grass not unlike *chhimbar*. It is a different grass from *kúra*, which is found in *kangni*-fields generally. The latter has a thick stem, broad leaves, and grows a couple of feet high. *Khawì* grows about two feet high, in clumps; often in hard lowlying lands. But it is plentiful in the *bàr*, along the Montgomery and Dipálpur road. The flowers are fluffy. When ripe, the plant is of a brownish-red colour. It is a fragrant grass, and a scent is said to be màde from it. The milk of cattle eating it is supposed to become perfumed. The people assert that the roots yield the *khus* with which *tattìs* are made; and that *panni* is a different grass. But the two seem very like each other. *Panni* is used for thatching. *Dìla* is a grass found in hard inundated lands. It is very common in the rice-fields about Dipálpur. There are two kinds, the big and the little. The former is yellow, the latter brown. Cattle eat both, but there is no nourishment in them. The root is like the grain of gram. Pigs root up the ground to get at it. It is called *mothra*, and is considered useful in brain diseases. Pigs are also said to have a fancy for the roots of *murk*, a small low-growing grass, with double compound stems, and a small red knob at the end of each branch of the stem. It is found in soft soil, and is abundant on the banks of the Deg. It is a fair grass for fodder. It differs from *muruk*, which is also a small low-growing grass *Murkan* has very fine and slender round culms. It is a famous grass, having given its name to a famine. *Lamb* is not unlike *lonàk*, but it is much smaller and more irregular. It is produced when there is heavy rain. It is eaten by cattle; and when green, increases the yield of milk and butter. *Chinikkì* is a small grass, growing about one foot high. It is not unlike *lonàk*; but the difference is easily seen. The flower of *chinikkì* is broader and not so long as that of *lonàk*. It is eaten by all cattle; but is an ordinary grass, and has no great reputation. It is generally found in soft high land. *Lùki* is a grass about 7 or 8 inches high. It consists of a slender stem, with a number of whorls. The lower whorl consists at times of as many as ten arms; the upper ones generally of five. This grass may be at once known by the regularity with which the arms of the whorls spring from the same centre. *Lùmbar* is a small low grass, not unlike the tail of a fox. It is said to derive its name from this resemblance. *Kanh* is simply a rush found in inundated lands. The roots resemble those of *dabh*. *Maina* is a grass not unlike *tallà* and found also in lowlands. The flowers is said to be different. Poor people boil the leaves and use them as a vegetable. *Salyàra*, *itsit*, and *leli* are not grasses. The first is a large shrub; the second has been noticed before; and the

third is a creeper found among wheat in spring. *Lehá* is said to be a thorny plant.

Fauna. Domestic animals. Wild beasts.

The fauna of the district is, if anything, more uninteresting than the flora. Camels are numerous; the cattle of the Rávi are well known. Sheep are common. The domestic animals will be noticed in more detail in Chapter IV. Wild animals are rare; tigers were occasionally found prowling about the Sutlej not many years ago. The Rája of Kapúrthala and Mr. J. O. H. N. Oliver are credited with their extermination. Even now an odd tiger is occasionally reported to have been seen; but the report is probably unreliable. Wolves and wild cats (*bár-billi*) are the most dangerous beasts of prey. Jackals are common, as might be expected; wild pigs have been somewhat reduced in numbers by the extension of cultivation into the jungle tracts along the rivers. They do exist, however; but tame pigs are unknown.

Game.

Ravine deer are fairly numerous; but *nílgái* and black buck are confined to a small portion of the Gugera *tahsíl*, about the Rávi, near the Lahore border. Bustard, florican, partridges, grey and black sand-grouse and quail are found; and water-fowl of various kinds, from the goose to the snipe, frequent the *budhs* of the rivers.

Kunj, tilyar.

Kunj visit the district in the cold weather; and *tilyár* (H. *golia*), a small bird with black back and brown breast, is one of the worst enemies of the farmer.

Alligators; fish. Snakes, reptiles, insects.

Crocodiles bask on the sand banks of the Sutlej, and now and then one appears in the Rávi. Fish of many kinds abound in the rivers. Snakes are by no means rare. The cobra is the snake usually met. The people talk of a white snake, the bite of which is, if possible, more fatal than that of the cobra. The banks of the Rávi are its chosen abode. Scorpions, centipedes, hornets, wasps, mosquitoes and flies may close the list of unpleasant denizens of the district. During the past five years rewards to the amount of Rs. 307 have been given for the destruction of 4 leopards, 169 wolves and 34 snakes.

Honey.

Honey is occasionally found in the *bár*, in nests attached to trees. The yield of a hive is said to amount to about three seers at the outside. The honey, which is called *makhír*, is sold to druggists at the price of *ghí*. The honey is taken from the nest in Kátik, during the day time. A saccharine substance, finer and sweeter than sugarcandy, and less than a *chittáck* in weight, is said to be found in wasps' nests. The gatherer finds it prudent to rob the wasps by night.

Sport.

The Montgomery district was, and under a game law might be again, a very good shooting ground, but unless speedy measures are taken to preserve the game that remains, there will soon be none left, and even now sportsmen coming from a distance expressly to shoot, often fail to find game enough to repay them for the trouble. The natives of the district catch pigs in nets and hares with dogs and hawks. Guns also, licenses for which are obtained for the purpose of defence against the depredations of wild beasts, are said to be freely used for shooting gazelle, duck, &c., for sale. Besides this, a serious amount of destruction is caused by Lahore and Multán bird-catchers, who come down with nets and call-birds in the spring to catch black and grey partridges and quail for the market. The black partridge is rapidly becoming extinct from this cause. Sand grouse and *obára* are also netted. No tax is levied on nets or call-birds, though these

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Sport.

are much more destructive than guns. The winged game of the Montgomery district consists of—(1) Blue rock pigeon; (2) sand grouse, two kinds; (3) black partridge in lowlands near rivers; (4) grey partridge, in dry lands and in the *bàr*; (5) quail, in grass and cultivation; (6) bustard, rare, found on open plains; (7) *obàra*, found on open plains; (8) plovers; courier, grey, lapwing, three species; stone plover of two species (now plentiful); (9) crane, *kùlan*, found near rivers; (10) snipe and jack snipe, scarce; (11) painted snipe, very rare; (12) godwit and curlew, rare; (13) spoonbill, scarce; (14) black Ibis; (15) flamingo, scarce; (16) goose, two species; (17) duck; *Brahminy*, mallard, spotted bill, gadwal, widgeon, teal, garganey, pochard (of two species), and golden-eyes. Duck are plentiful in some seasons and scarce in others, there being no large grassy *jhìls* in this district, and the presence of duck in the old river beds and back-waters apparently depending on the shallowness of the water, and therefore on the previous inundation. The larger animals have been noticed above.

Fishing.

There are no fishing towns. Fishermen, who are called *jhabels*, do not depend exclusively on their earnings from fishing. They live scattered about in the villages bordering on the rivers. Fish are rarely caught from the beds of the rivers, as the fishermen have not the means of carrying on operations successfully in deep and rapid streams. A fish called *tirkanda* is, however, sometimes caught in the hot weather when the rivers are in flood. Most fish are caught in the *budhs* during the cold season. Fish go up these to spawn, and on the rivers falling, the fish in the *budhs* are shut up as in a lake. Fishermen make their own nets. Four kinds are in use. The meshes of the first three are about one inch square; those of the fourth much smaller. The nets are called on the Sutlej—(1) *hànd;* this is a long net made of several breadths joined together. A number of men drag this net, sweeping the whole width of a *budh* with it. (2) *Sàtwàn;* this is a round net, about 7 to 10 feet in diameter. The edge all round is weighted with iron rings through which a cord passes. The fisherman holds this cord in his hand, and flings the net into the water, so that it opens, and the weighted edge sinking to the bottom prevents anything under the net from escaping. By pulling the string going through the rings, the net is closed like a bag, and anything inside is caught. (3) *Kudalli;* this is a cone covered with netting. Its size is proportioned to the size and strength of the person using it. It is generally about four feet high and the same in diameter at the bottom. The fisherman plunges this cone with the broad end downwards through the water to the bottom. If there are any fish inside, their motion in trying to escape tells him. If they are small, he inserts his hand under the net and seizes them; if large, he first spears them with an iron spit, about one foot long, called *sùa*. (4) *Sambhi;* this consists of two sticks fastened together at an angle. The intermediate space is covered with fine netting. One man stands in the water holding the net below the surface, while another comes towards him beating the water. When he gets near, the man with the net lifts it out of the water, and the fish at that moment over the net are caught. This net is used only for catching very small fish. The principal kinds of fish found are the following,—

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Fishing.

Batti, Dambrá, Singhári, Mori, Saul, Malhi,	Gogu, Bhúsan, Machhána, Petrate, Khaggá,	Dungna, Jalli, Paráhi, Lesi, Nái machhi,	Tirkandá, Patwi, Pránda, Makhní, Durra,

besides the *gángal* or *jhinga* (shrimp), and the *goj* (eel). Fishermen do not sell by weight, but barter so many of their fish for so much grain ; they are not usually paid in cash. In the canals, fishing is allowed only to men working the regulators at Dipálpur and Kachápakká. They get no pay, but are permitted to fish. Fish oil, obtained by boiling down fish and skimming off the fat that rises to the top, is not made to any extent here. It is called *vaho*, and is used in some cases of cattle-disease. It is possible that some of the names given above apply to the same fish at different stages of its growth, and do not all represent different species. The fish caught in the district are for the most part taken by rail to Lahore for sale there.

CHAPTER II.

HISTORY.

Chapter II.

History.

Early history. Alexander's invasion.

The history of the district is chiefly that of certain wild pastoral tribes which appear to have occupied the Rachná Doáb from time immemorial, maintaining a sturdy independence of the successive rulers of northern India, and ever noted for their lawless turbulence. Some account of them is given in the next chapter. Their history goes back, probably, as far as the time of Alexander. From the historians of his expedition, we learn that the northern part of the district was at that time held by a race whom they called Kathæans,* and the southern part by another race, the Malli, whose capital town was Multán. Both these tribes in turn severely tested the valour of the Macedonian troops. The history of the Malli is discussed in the account of Multán,† and need not be repeated here. Their towns in this district were probably those of Kot Kamália and Harappá.‡ Kot Kamália has been identified by General Cunningham with the first city taken by Alexander in his campaign against the Malli. He also supposes Harappá to have been the "another city of the Malli, into which a great body of the Indians had fled for safety," against which Perdikkas was sent with the cavalry. The similarity between the name Kathaioi, the people whose capital city, Sánglá, was stormed by Alexander, and that of the present Rávi tribe, the Káthias, has often been noticed. Sánglá, situated in the Rachná Doáb, is at no great distance from the country now occupied by the Káthias; and it is not improbable that they are the descendants of the old Kathaioi, though they claim a very different origin. They say they came from Káthiáwár. But the Káthiáwár Rájas, on the other hand, trace their origin from the Punjab. The history of Alexander's campaign against the Kathaioi is given in the *Gazetteer* of the Jhang district.

Of præ-Muhammadan times, there is nothing to add save that to this period are probably to be referred those remains of ancient town and village sites already referred to on page 14, which are frequent upon the banks of the rivers, and dot the central portions of the district, at present a waste, devoid of fixed abodes, and inhabited only by the wild tribes already alluded to. The towns of Pák Pattan, Dipálpur, Kot Kamália, and Harappá, are all places of great antiquity, and once were places of importance. An account of each is given in Chapter VI under their respective headings. The villages of Akbar and Satgaráh, both of them in the neighbourhood of Gugerá, the former six miles to the south-west, and the latter 13 miles to the east, are also old towns containing interesting remains. They have been examined and described by General Cunningham, who is unable, however, to suggest any clue to their former history.§ All seems to

* Arrian Lib. v. cap. 22, 23, 24.
† See *Gazetteer* of the Multán district.
‡ *Ib.* See also Chap. VI., headings "Kot Kamália" and "Harappá."
§ *Ancient Geography*, page 212.

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Antiquities.

point to a time when Montgomery was a populous country, with towns large and flourishing, and resources at least equal to those of the more northern portions of the province. The antiquities of the district are fully described in the Archæological Survey Reports, Vol. V, pages 103 to 111; Vol. XIV, pages 139 to 145; and at pages 208 to 219 and 244 to 248 of Cunningham's *Ancient Geography of India*. For nearly 1,600 years after the capture of Kamália and Harappá, there is a great blank in the history of the district, for the accounts about Rasálu, son of Salváhan, are vague and unreliable. He is said to have lived much about Dhaular, a very old town in the Pák Pattan *tahsíl*, and there is still an old mound in the jungle called after him. In the reign of Firoz Sháh Tughlak (1351-1388), Dipálpur was a favourite residence of the Emperor. He "erected a "mosque outside the city and drew a canal from the Satlej for the "irrigation of its lands" (*Ancient Geography of India*, page 213).

Rasálu, son of Salváhan.

Firoz Sháh Tughlak at Dipálpur.

Tamerlane takes Pák Pattan.

In 1398, Tamerlane marched from Multán to Pák Pattan. No resistance was made, and the place was spared out of respect for the memory of Bába Faríd Shakarganj, who had died and been buried there about 1264-65.* After the lapse of nearly a century-and-a-quarter, another conqueror, a descendant of Tamerlane, entered the district. This time the invasion came from the north. Daulat Khán Lodhi was then governor of the Punjab under Ibrahím Khán Lodhi, the Afghán King of Dehli (1517-1526). He encouraged Bábar, the ruler of Kábul, to attempt the conquest of India. It is probable that at that time the south-west portion of the district was subject to the Langah chiefs of Multán; but the upper portion was held by the Viceroy of the Punjab. In 1524 Bábar, having taken Lahore, marched on Dipálpur and took it by storm. The country attached to Dipálpur

Bábar takes Dipálpur.

* A legend of Pák Pattan relates that Ghází Beg Tughlak was a poor village-boy living in the neighbourhood of Bába Faríd. Thanks to the spiritual influence of the saint, this poor boy became governor of Multán and, finally, king of Dehli. He then visited Pák Pattan, and, to show his gratitude, had the Bishárat *nallá* dug by one of his officers, Bishárat Khán. It is an objection to this story that Ghází Beg did not come to the throne till 1321, or at least 56 years after the death of the saint. Bishárat Khán may have opened the mouth of the *nallá*; but the channel is certainly not artificial. The legend continues that when the Bisháratwah was dug, the stream ran so deep and strong that it was necessary to have a ferry over it, where there is now a bridge between the town and *tahsil*. One evening, Bába Faríd came down to the ferry and saw the sun shining on the rippling waves, people in bright attire bathing and drawing water, while the boats glided backwards and forwards. Enraptured with the sight, he exclaimed: *Ai kya pák pattan?* "Oh, what a beautiful ferry," and after that the old name of the town Ajudhan was given up, and Pák Pattan adopted. The truth of the story is doubtful. The name may have been changed to Pák Pattan on account of a ferry over the Bisháratwah, but the town was known as Ajudhan in Tamerlane's time. In the Aín-i-Akbari it is called simply *pattan* or "the ferry." *Pák* is probably an epithet applied to the town on account of its containing the tomb, and having been the residence of such a famous saint, much the same way as Mecca is called *sharíf*. In fact, Pák Pattan means simply the holy *pattan*. It is difficult to see how it could mean "the ferry of the pure one," as has been stated. The comparison of a spiritual teacher, who carries his disciples across the river of existence into paradise, with a ferry man, has been made in respect of Pír Baká, another celebrated holy man of the district, who lived at Shergarh. Of him it is said—

Beri bahti shah darya vich,
Pír asáde láwan nún;
Pír Baká malláhi karda,
Bhar bhar pár langhánda.

"A boat is floating in the mighty river to carry us over, Pír Baká is acting as boat man. He ships a boat-load and carries it across."

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Bábar takes Dipálpur.

was then made over to Sultán Ala-ud-dín Lodhi, who had been an unsuccessful competitor for the throne of Dehli. Bábar had to fall back on Kábul owing to the defection of Daulat Khán, who drove Ala-ud-dín out of the country. Next year Bábar incited Sháh Hasan, the ruler of Sindh, and Arghun Tartar, to attack Multán. After a siege of 15 months the place was taken. In 1526 Bábar, having returned to India, defeated Ibrahím Khan Lodhi at the battle of Pánipat, and became king of Dehli. Shortly after, the Arghuns were expelled from Multán, and Sháh Hasan made over the country to Bábar, who conferred it on his son Askari. Thus the whole of the district came into Bábar's hands. On his death Humáyún had to give it up to his brother, Mirza Kámrán, who held it till the successful revolt of Sher Sháh in 1540.

Sher Sháh builds a fort of Shergarh.

Sher Sháh spent some time at the commencement of his reign in the Punjab, and is said to have built a fort at the town of Shergarh to protect the Nakka country. But it is not known against whom the country was to be defended. On Humáyún's return, one of his lieutenants, Abu Moáli, defeated the Afgháns in 1555 at Dipálpur. On Akbar's accession the district passed into his hands. One naturally turns to the Aín-i-Akbari, compiled in his reign to obtain information concerning the district. The result is most unsatisfactory. Almost all that can be made out is this. The *súba* of Multán seems to have included the whole of the present district. Of the three *sarkàrs* into which the *sùba* was divided, one was Dipálpur, containing 29 *mahàls* or *parganàs*. The names of only five of these can be identified, *viz.*:—

1. Pattan.
2. Dipálpur.
3. Kabúla.
4. Satgharáh.
5. Faridábad.

In *sàrkar* Multán appear the *parganàs*—

1. Chukandi.
2. Shergarh.
3. Haveli Shahr.
4. Deg Rávi.
5. Jalálábád.

1, 2, and 4 of which were in this district, and 3 and 5 may have been. Of course nothing is known about the limits of the *parganàs*. Six *parganàs* of *sarkàr* Dipálpur lay on the left side of the Sutlej. The Deg Rávi is the country about Kot Kamália, and Jalálábád may be the town, the abandoned site of which is still to be seen on the old Biás to the south of the Dipálpur and Gugerá road. But native report gives that *theh* a different origin. It seems in the same *dàstùr* as Shergarh, near which it is actually situated.

The Khán-i-Khánán.

It was during Akbar's reign that the Khán-i-Khánán is said to have restored the Khánwáh canal. This was Mirza Abdul Rahím, son of Bairám Khán. He held Multán in *jàgìr* about A.D. 1590. He is also said to have re-built Dipálpur, which had not recovered from the effects of the attack by Bábar.

Chaklàs; rise of the Háns.

In Alamgír's reign (1658-1707) the old term for a cluster of *parganàs*, *karori*, was changed to *chaklà*. Dipálpur is said after that to have been called *chaklà* Dipálpur. In the time of Alamgír the foundation of the Háns' power was laid. The Háns were simple *zamìndàrs*, living a little to the north-west of Pák Pattan. Among them was a learned man Shekh Kutb Háns, who appears to have been a teacher of some of the Dehli nobility. He obtained some influence

in this way, and finally, in 1663, Alamgír conferred a *sanad* on him, granting him several villages in the *talùka* of Kutbábád. The deserted site of Kutbábád may still be seen on the bank of the old Soháｇ, nearly south of Malká Háns. The villages were considered worth Rs. 10,000 per annum. Owing to his ability and court influence, Shekh Kutb became a powerful man, and as the Pára, Soháｇ, and Dhaddar flowed through his lands, he rapidly became rich. At the downfall of the Moghal empire, his descendant made himself independent, as will be noticed further on. *Tappa* Hánsán belonged to *pargana* Kabúla. But Alamgír founded a new *pargana* and named it Alamgírpur, to which the *tappa* Hánsán, with most of the Deg Rávi *pargana*, was attached. This connection with the Rávi may have been a main reason why the Háns ruler afterwards threatened the independence of the Kamália Kharrals—a proceeding which ended in his downfall. Alamgírpur is supposed to have been situated on the old Biás, a little north of Kabír, on the Harappá and Pák Pattan road. The site is marked on the map as Sháhjahánpur.

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Pargana Alamgírpur founded.

It was in the time of Alamgír that the Kot Kamália Kharrals rose to some importance. The fact of their chief still drawing considerable *taluqdàri* allowances and occupying a position of some dignity, seems to show that they must have been powerful once. According to their own accounts, their leader was much superior to the princes of the royal family, though not quite as great a man as the emperor. But, from the facts incidentally ascertained, they appear to have had no power at all, and to have been at the mercy of all the neighbouring tribes. Saádat Yár Khán was the son of one of the Kharral chiefs, who held some post at the court of Dehli. He followed the vocation of all noble families in those days, and robbed every one he could. The emperor was pacified by Saádat Yár Khán's father, until some presents from the King of Persia to him were appropriated by the Kharral. Then Saádat Yár Khán was called to account, arrested and sent to Dehli. Here his witty excuses resulted in his obtaining honorary dresses, a *jàgìr* worth Rs. 1,09,000 per annum, and being sent with 12,000 men to punish some rebellious Afgháns at Pind Dádan Khán. This rebellion seems to have been that which occurred in 1672, in which prince Sultán led the Imperial forces. He is probably the prince who insulted the Siáls by proposing that Gházi Khán, the eighth Siál chief, should betroth his daughter to Saádat Yár Khán.* The fact of this proposal being considered insulting, makes one suspect that Saádat Yár Khán's *jàgìr* cannot have been so large as said. He succeeded his father Mahábbat Khán, who was murdered at the instigation of a Multán Kureshí in 1706. He again went to Dehli, and was sent by Alamgír with prince Muiz-ud-dín to put down the Lughári Biloches, who had revolted under one Rugha.† Just then Alamgír died, Muiz-ud-dín went off post haste to Lahore, leaving Saádat Yár Khán to bring up the baggage behind. On the return of the latter, coming down the Rávi in boats, he got involved in a quarrel with the Upera Kharrals, and a great battle was fought at

The Kamboh Kharrals.

Saádat Yár Khán succeeds.

* The Punjab Chiefs, page 510.

† This is probably the expedition mentioned by Elphinstone (*History of India*" p. 588, Ed. 4). He considers the insurgents were Sikhs. But the Sikhs were not in force about Multan so early as 1707. The rebels seems to have been Afgháns. The Kharral account is that given above.

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Dánábád, in which the Uperás were totally defeated. It seems probable that there was a riot in the jungle, and that the Montgomery men came off victors.

Quarrels of the Rávi tribes.

After this the Kamália or Lekherá Kharrals with their allies the Káthiás, Baghelás, Wahniwáls, and other lower Rávi tribes, appear to have been engaged in constant quarrels with the Kharrals of the upper Rávi, and desparate battles took place at Waliwála, Pindi Kháí, and elsewhere. Sometimes one party succeeded in carrying off the stolen cattle, and sometimes the other succeeded in recovering them. In spite of his court influence, experience in war and valuable *jàgìr*, Saádat Yár Khán could not protect his country against Walidád Khán, the Siál chief of Jhang. The Siáls held the country till the death of Walidád Khán in 1747. This chief effected great improvements. With the usual exaggeration of native stories, he is said to have set 125,000 *pakka* wells at work in the tract called Jhangar, and to have taken one rupee and a blanket annually from each as revenue. There is no doubt he greatly extended cultivation, sunk wells, dug water-courses, and put down robberies vigorously. Saádat Yár Khán seems to have died before Walidád Khán. On the death of the latter, the Kamália Kharrals became their own masters again, till they were conquered by the Nakkaí Sikhs.

The Jhang Siáls occupy Kamália.

Ahmad Sháh's invasions; break up of the empire.

After the death of Alamgír in 1707, the Moghal power, already grievously shaken, hastened with accelerated pace to its overthrow. Internecine struggles for the throne indirectly favoured the rise of the ferocious and enthusiastic Sikhs at the same time that the Mahrattás and Afgháns made themselves masters of the best provinces of the empire. In 1739 Nádir Sháh took the emperor Muhammad Sháh prisoner and sacked Dehli. In 1747 the first invasion of Ahmad Sháh took place. He is said to have come back seven times; the last invasion took place in 1767. The complete manner in which the country was swept of everything valuable by the Afgháns is forcibly expressed in the couplet:—

Khàdà pità là-he-dà,
Te rehndà Ahmad Shàhì dà.

Implying that what one eats and drinks is of profit to one, and anything that remains goes to Ahmad Sháh. In 1758 the Mahrattás overran the country and took Multán and Lahore. Next year Ahmad Sháh drove them out again. The next invaders were the Bhangí Sikhs.

Independent states formed.

Till the incursions of the Duráni monarch commenced, the present Montgomery district was subject to the governor of Lahore. After that various men of influence made themselves independent, and exercised all the privileges of independent rulers, as regards fighting with their neighbours and robbing and murdering those weaker than they. The manner in which the country was parcelled out among these separate states is roughly shown in a map attached to Mr. Purser's Settlement Report of the district. The following paragraph contains a brief account of each.

The Bahrwál Nakkaís.

The Nakka country lies between the Rávi and Sutlej, in the south of the Lahore district. The word *nakka* means border, edge. Hîra Singh was a Sikh *zamìndár* living at Bahrwál in the

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The Bahrwál Nakkaís.

Nakká. He took possession of the country, and founded a *misl* or confederacy, which was known as the Nakkai *misl*. He seems to have joined the Bhangís in their plundering expedition under Hari Singh about 1760 (?), when they were beaten back from Multán. He had always an inclination to extend his territory to the south; and forming an alliance with the Háns, he attacked the Díwán of Pák Pattan, who was supported by the Wattús. A battle was fought at a place called Bhúman Sháh or Kuttewála on the old Sohág. The Sikhs and Háns, who were probably in small numbers, were beaten, and many of them drowned in the river. Hira Singh was killed. He was succeeded by his nephew, Nar Singh, who was killed in 1768 at Kot Kamália, fighting against the Kharrals. His son, Ran Singh, was the most important of the Nakkaí chiefs. He extended the possessions of his *misl*, and held the *talúkas* of Bucheke, Farídábád, and Jethpur. He also got possession of Saíyadwála, which had before been held by Kamr Singh, of the Gugerá Nakkaí family. On Ran Singh's death, Wazír Singh, brother of Kamr Singh, recovered Saíyadwála from Bhagwán Singh, the son of Ran Singh. After the marriage of Bhagwán Singh's sister to Ranjít Singh, the Nakkaís seem to have turned their attention to Pák Pattan again, and finally conquered the country of the Háns. This they retained till Ranjít Singh seized all their possessions in 1810.

The Gugerá Nakkaís.

Kamr Singh, of the Gugerá Nakkaís, was a greater man in this part of the country even than Ran Singh. He occupied both sides of the Rávi, from Farídábád to the Multán border. When the Háns threatened Kamália, or, as one account says, actually took it, the Kharrals called on Kamr Singh for help. He drove off the Háns and kept Kamália for himself. He took away the *jágír* of the Kamália chief, and gave him a *talúqdári* allowance, locally known as *athog*, of five *páís* in the *kharwár* of *nijkári* crops, and Re. 1 per *kanál* of *zabti* crops. He rebuilt Satgharáh, which had been sacked by the Sikhs about 1745, and abandoned by the inhabitants. He built a brick wall, still in good preservation, round the town. This was in 1775. He also constructed forts at Harappá and Kabír. He was an able ruler, and kept the Rávi tribe in good order. The Káthiás, Kharrals, and other robber clans settled down to comparatively quiet lives. A great increase in cultivation took place in his time. In this respect, considering the difficulties under which he laboured, his rule will compare not unfavourably even with that of Sáwan Mal. The country subject to him seemed to have been divided into two *parganás*, Satgharáh and Saíyadwála, and five *garhís*—Killiánwála, Dhaulrí, Kamália, Chícháwatní, and Harappá. He died about 1780 after having been engaged in constant warfare with the rival house of Bahrwál. It is said he was murdered by an Upera Kharral at Rahna Mohárán near Saíyadwála. He was succeeded by Wazír Singh, his brother, who more than held his own against Bhagwán Singh. In 1783 Jai Singh, Kanhaia, seized his country. After two years the Kanhaia *misl* was shattered at Batála. Wazír Singh assisted in its overthrow and recovered his country. In 1790 he was murdered by Dal Singh, of Bahrwál, and was succeeded by his son, Mihár Singh. In 1798, when Sháh Zamán invaded the Punjab, Muzaffar Khán, governor of Multán, attacked Kamália and

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The Háns.

expelled the Sikhs. In 1804 Ranjít Singh appropriated all the territory still held by Mehr Singh.*

The rise of the Háns has been already noticed at pages 28, 29 of this chapter. About 1764 Muhammad Azím was chief of the Háns clan. He seized as much of the country round about Malká Háns as he could. When Jhandá Singh and Gandá Singh, the Bhangí *sardárs*, invaded Multán in 1766, they seized upon the country of Muhammad Azím Háns. After they had come to terms with the Baháwalpur Khán they seem to have almost deserted the country, so that the Háns easily expelled the remaining troops. It must have been before or about this time that the battle in which Híra Singh Nakkaí was killed occurred, as Abdus-subhán, the Díwán of Pák Pattan, was murdered in 1767. About this time, too, Muhammad Azím Háns was treacherously taken prisoner by Kamr Singh Nakkaí, and died in confinement. He was succeeded by his brother, Muhammad Haiyát, who quarrelled with Ghulám Rasúl, the successor of Abdus-subhán. Getting the worst of the contest, he called in the Bahrwál Sikhs to assist him, promising them half his country. They came, took the land, and did not interfere with the Díwán, but they did interfere with cow-killing and the calling to prayers *(báng)*. So Muhammad Haiyát was not pleased and called on the Dogars, who were then numerous in the district and desperate characters, to help him. The Nakkaís were expelled, and the Háns ruled again. Before this the Pára, Sohág, and Dhaddar had dried up, and with the water the source of wealth and power of the Háns had gone; so when the Sikhs returned, after the betrothal of Máí Nakkaían to Ranjít Singh, Muhammad Haiyát could not resist them, and sought refuge with the Díwán of Pák Pattan, and the Nakkaís occupied the country till Ranjít Singh took it from them.†

The *kachhi* occupied by Baháwalpur.

About the same time that the Háns shook of their allegiance, the ruler of Baháwalpur, Mubárik Khan, moved across the Sutlej and annexed the strip of land lying along the right bank of the river, from about Pír Ghani southwards, called the *kachhi*, a word meaning simply lowland lying between a river and highland. When the Bhangís invaded Multán in 1766, Mubárik Khán joined the Afgháns and assisted in the indecisive battle that was fought on the Sutlej. Peace being made, he retained the *kachhi*. In 1772 the Bhangís defeated the Afgháns and Dáúdputrás, but the latter kept the land to the north of the Sutlej. In 1779 Díwán Singh Bhangí was driven out of Multán. In 1810 Sádik Khán, of Baháwalpur, was obliged

* The accounts of these petty states are derived from oral tradition. They are of doubtful authenticity. The only check on them is Mr. Griffin's history of the Punjab Chiefs, which has been constantly referred to for the purpose. The history of the Punjab Chiefs says, on Kamr Singh's death Kamália fell into the hands of Rám Singh (son of Nar Singh), head of the rival Nakkai house. Tradition says Rám Singh was Wazír Singh's servant. Rám Singh's name does not occur in the pedigree table of the Bahrwál Nikkais given on p. 118 of the Punjab Chiefs.

† This account of the Háns is far from satisfactory. Considering that the Bhangi invasion of Jhandá Singh and Gandá Singh occurred in 1766, and that Abdus-subhán, fighting against whom Hira Singh was killed, died in 1767, it is impossible to reconcile the statements given above. It can only be supposed that Muhammad Azím lost his country during Hari Singh's invasion, and was captured before the Bhangís appeared for the second time, and that Muhammad Haiyát formed an alliance with the Nakkaís against Abdus-subhán as well as against Ghulám Rasúl. The Dogars afterwards emigrated and went up through Chunián into Mamdot, where they retained their reputation for lawlessness.

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The *kachhi* occupied by Baháwalpur.

to assist Ranjít Singh against his old allies, the Afgháns, at the siege of Multán. Next year, after the repulse of the Sikhs, the Afgháns attacked Baháwalpur, but were defeated. About this time Ranjít Singh "demanded tribute for the Baháwalpur territory north of the "Sutlej. Sádik Muhammad Khán sometimes refused payment "altogether, and always resisted till he succeeded in gaining more "favourable terms." The demand was successively raised till the Khán could nolonger pay it. Ultimately, in 1831, General Ventura occupied the country on the part of the Lahore Government.

The Díwáns of Pák Pattan.

The Díwán of Pák Pattan is the successor of Bába Faríd Shakarganj. The respect inspired by the memory of this saint was shown as early as the invasion of Tamerlane, when it procured the safety of the town. The succeeding Díwáns had great influence over the wild clans of the country, and were much respected by the Imperial officials. They held a good deal of land on a sort of *jágír* tenure. They received the government share of all crops on which revenue was levied in kind. But indigo, cotton, tobacco, and sugarcane were *zabti* crops, and paid in cash. All revenue paid in cash was taken by the *kárdárs*. It was then the interest of the Díwán to induce the people to sow crops of which the revenue was paid by divisions of the produce, and to neglect those paying in cash. As, moreover, cash rents were collected, whether the crops matured or not, he was able to make a show of seeking the benefit of the people when he exhorted them to sow only such crops as would pay nothing if there was no outturn. As might be supposed, the Díwán, being a man of influence and having a brick fort at Pák Pattan, was determined to be independent if possible ; and when the Háns and Dáúdputrás seized on all the land they could, he appropriated a small tract of country in the west and south-west of the present Pák Pattan *tahsíl* estimated to yield a revenue of Rs. 30,000. The Díwán then was Abdus-subhán. He is said to have made himself independent in 1757. He entered into an alliance with Mubárik Khán, and joined in an attack on the Bikáner Rája. This resulted in his getting some land on the other side of Sutlej. He then fought the Nakkaí Sikhs, and defeated them. His territory was then occupied by the Bhangís. In 1767 he was killed by an Afghán retainer by mistake. This Afghán had a grudge against one of the Hujrá Saiyads. The Saiyad came on a visit to the Díwán, and the Afghán resolved to shoot him. He lay in ambush as the Saiyad and Díwán were riding past, and observed the Saiyad was first. When the cavalcade got close to him, he fired at the foremost man, who turned out to be the Díwán, as the Saiyad had fallen back. In this way Abdus-subhán came to his death. After the expulsion of the Bhangís his successors recovered their territory till Ranjít Singh appropriated it in 1810 ; but they had to pay tribute to the Sikhs who held the Háns' country.

Death of Abdus-subhán.

The Wattús. Lakhá and Ahmad Yár. The Bhangís.

The situation of the Wattús on the Sutlej is described in Chapter III. Not only do they occupy a large tract of country on the right bank of the river, they also extend for some distance on the left bank, principally in the Sirsa district. There was a famous Wattú *chaudhri* called Lakhá, who used to pay in the revenue of a considerable part of the Wattú country on both sides of the river. About the middle of last century he became independent. He held the villages

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The Wattús. Lakhá and Ahmad Yár. The Bhangís.

about Atári and Havelí, and some 40 more on the other side of the Sutlej. He built an enclosure or *haveli* near the latter village, hence the name Havelí, though the present village does not stand on the same site as Havelí Lakhá Wattú. This chief seems to have had to fight for his territory, and to have been able to retain only the Wattú villages. It does not appear when he died, but he was succeeded by his grandson, Ahmad Yár Khán, who was present at the defeat of Híra Singh Nakkaí. His triumph was short-lived, for very soon Fatah Singh Bhangí attacked him, over-ran the country, and, after defeating him at Khadwálí, drove him across the Sutlej. One account says the leader of the Bhangís was Sardár Budh Singh. He improved the country greatly, and the Wattús, who had been ill-used before, were well off and as contented as they could be under the Bhangís. An occasional attempt was made to oust the latter, but ineffectually. It would seem as if the Bhangís treated Jahán Khán, successor of Ahmad Yár, with consideration, and did not entirely despoil him of his property. The territory of the Bhangís extended from Márúf in the east to Bhangíánwála near Pák Pattan in the west. The Sutlej bounded it on the south, and it ran up nearly to the old Biás on the north. Atári fell to the lot of some *sardàr* about whom nothing is known. The famine of 1783 A.D. occurred in Budh Singh's time. He is said to have sold all his property, and to have fed the people with grain bought from the proceeds. In 1807 Ranjít Singh took the country from the Bhangís, and made it over to Káhn Singh Nakkaí.

The Afgháns of Dipálpur.

There was an Afghán, belonging originally to Kasúr, called Dáúd Khán. He lived near Shergarh, and seems to have been a freebooter. About the time of the Mahratta invasion he settled at Jalálábád on the old Biás, about 10 miles north-west of Dipálpur. He built a mud fort and collected a number of similar characters to himself, and plundered right and left. Thus he became a man of influence. At that time Dipálpur, which had brick wall and bastions, was held by one Harí Singh, apparently a *thànàdár* of the Mahrattás. His position soon became difficult; for the people did not care to have him, and the Mahrattás were driven out by the Afgháns. He therefore entered into an agreement with Dáúd Khán to make over the town to him on payment of Rs. 4,000. Dáúd Khán paid Rs. 2,000, and was admitted into the town. Harí Singh was very anxious to get the balance due; and Dáúd Khán was equally anxious to get back what he had paid. In the end, Harí Singh found it advisable to get away as fast as he could. Dáúd Khán then became ruler and oppressed the people of the Dipálpur *ilàka* most grievously. He died after 10 years, and was succeeded by his son, Jalál-ud-dín Khán, after whom the mud fort had been called. He was a greater tyrant than his father. As he found persons of property who were worth fining absconded, he made them give sureties not to leave without permission. Hence it became a saying that one should be careful to take one's sureties with one when going off "*sàne zàminàn jàna bhài; sàne zàminàn jànà!*" He appears, however, to have kept a hold on his territory till the last decade of the century. Then the Gugera and Bahrwál Sikhs seized all his villages to the north and west, while the Kanganpur *sardàrs*, who occupied Márúf, took the remaining villages

The Afgháns of Dipálpur.

and built a fort under the very walls of Dipálpur, where the canal bridge now stands. Finally, peace was made on the basis of the *status quo*, which left Jalál-ud-dín Khán simply Dipálpur, and when his cattle went out to graze, the neighbouring villages stole them. He appears to have died in 1804. His successor and son, Ghiás-ud dín, was expelled in 1807 by Ranjít Singh, who made over the place to the Bahrwála *sardàr*. Afterwards Ghiás-ud-dín took service with Ranjít Singh. His son, Mohi-ud-dín, owns two villages—Ghiás-ud-dín and Mahtáká Nauábád—in the Dipálpur *tahsìl*. He is not a man of any importance.

The Saiyads of Hujrá and Basírpur.

In the town of Hujrá are the shrines of two saints, Miran Lál, Bháwal Sher and his great-grandson, Sháh Mukím. The incumbent was always a man of influence, and held some villages in *jàgìr*. When the Moghal empire broke up, the incumbent was Saiyad Sadr-ud-dín. He made himself master of the *talùka* of Hujra, which he and his successors seem to have held till 1807. The country about Basírpur was inhabited chiefly by Muhammadans, Wattús, and Aráíns. When the Bhangís occupied this part of the Doáb, Basírpur seems to have been made over to Karm Singh, Cháhal. The Wattús preferred their old master, Lakhá. Both they and the Aráíns were discontented, because Karm Singh paid scant attention to their old customs. They resolved to get rid of the Sikhs. The Aráíns wanted to call in the Saiyads of Hujrá, the Wattús preferred their connections, the Afgháns of Dipálpur. They finally arranged to send for both, and that the place should be given to those who came first. Now there was a fort at Basírpur and a garrison in it, and it was necessary to get rid of the latter. The Afgháns and Saiyads were summoned one evening, and during the night a great noise of people crying for help was heard outside the fort at a little distance. The men in the fort went out to see what was the matter, when the *zamìndàrs* set on them in the dark, and killed many of them. The rest fled. In the morning the Saiyads came up, and the fort was made over to them. Next the Dipálpur forces came up; but they were too late. The Saiyads after that held the Basírpur *talùka* till 1807. It does not appear when the Cháhals were ejected; but it was probably about 1780, when the Bhangí *misl* was growing weak. Sadr-ud-dín was succeeded by Saiyad Kutb Ali, and he by Sardár Alí Sháh, a cruel tyrant. He appears at first to have been kept in some sort of order by the Gugerá Nakkaís, but afterwards he gave loose rein to his bad disposition. After the conquest of Kasúr in 1807, Ranjít Singh made over the Hujrá and Basírpur territory to Bedí Sáhib Singh in *jàgìr*. The end of Sardár Alí Sháh was tragic. He went to Uná, got involved in a quarrel with the Bedís, and was put to death by them. Sadr-ud-dín seems to have been a good ruler, and to have encouraged agriculture, to have laid out gardens, and sunk 150 wells.

The Saiyads of Shergarh.

The incumbent of the shrine of Dáúd Bandgí Sháh at Shergarh had also some *jàgìr* villages during the Moghal empire. He set up as independent chief on the downfall of the empire, and held his three villages till Ranjít Singh took them away and made them over to Fatah Singh, Gandhí. Sardár Lál Singh resided at Shámkot, in the south of the Lahore district. When the Sikhs were seizing all the country round about, he made himself master

The *sardàr* of Shamkot.

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History.
The *sardárs* of Shámkot.

of the *talúkás* of Kanganpur in Lahore (which also extended a little way into this district) and of Márúf Subsequently, when the Dipálpur Afgháns grew weak, he seized on their villages to the south up to the gates of Dipálpur. In 1807 Ranjít Singh deprived him of his possessions, and made over the *talúka* of Márúf in *jágír* to Fatah-ud-din Khán, nephew of the chief of Kasúr which had just been conquered.

The country under Ranjít Singh.

Thus between 1804 and 1810 Ranjít Singh had taken possession of all the country except a small strip on the Sutlej held by the Khán of Baháwalpur, who paid tribute for it. The old divisions were abolished, and the country parcelled out into *talúkás*. Over each a *kárdár* was appointed, who was very nearly independent. He exercised judicial and executive powers. He collected the revenue and settled disputes. The revenue collected in the shape of fines was not much less than the actual land revenue. Almost the whole of the Dipálpar *tahsíl* was held by influential *sardárs* in *jágír*, with the exception of Chendpur and a block of land south of Farídábád; the rest of the district was *khálsá*. Occasionally, a *talúka* would be given in *jágír* and almost immediately resumed. Thus Kanwar Khark Singh held Kamália from 1814 to 1816. The *talúkás* seem to have been farmed to the highest bidder. As might be expected from such a system, oppression flourished. There was little security either. The people had only two ways of protecting themselves,—the first was to go to Lahore and complain; the second to murder the *kárdár;* neither was very satisfactory, as the result was only to introduce a still more rapacious party on the scene. The ruins of old forts are still numerous in the district. Wells used to be provided with little towers to which the cultivators might fly on the approach of danger. A couple of matchlocks were kept in them, and beneath, there was an enclosure for cattle. Thus cultivators carried on their work. Ranjít Singh had a *thána* at Kabúlá, and there was another belonging to Baháwalpur at Tibbí, four miles off, yet the country was so unsettled that people scarcely dared to cross between the two if they had anything worth stealing with them.

The country under Díwán Sáwan Mal.

About 1830 Díwán Sáwan Mal, governor of Multán, obtained charge of a considerable portion of the district; almost all, in fact, except the Dipálpur *tahsíl*. His rule was decidedly vigorous. At first, villages in which serious crimes took place were burnt as examples. The track law was strictly enforced. He had canals dug, and by light rents and a just administration caused large areas to be brought under cultivation. The tribes of the Rávi were, however, not to be weaned from evil ways in a hurry, and in 1843 they were out and plundered half the country. The Wattús on the Sutlej were very little better. In 1844 Sáwan Mal was killed. Next came the first Sikh war. The Kharrals and Siáls rose again, but were severely handled by Sádik Muhammad, the *kárdár* of Múlráj. The result of the war was the establishment of the English residency at Lahore. A summary settlement was made; but otherwise no startling changes occurred. The second Sikh war ended with the introduction of British rule in 1849.

Political divisions under the Sikh monarchy.

The state of things, towards the end of Ranjít Singh's reign, is shown in a map appended to Mr. Purser's Settlement Report, in which the approximate limits of the country subject to Sáwan Mal are

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Political divisions under the Sikh monarchy.

marked. After Dipálpur *talúka* had been taken from the Nakkaís, about 1810, it was given in *jágír* to Kanwar Khark Singh, and in 1828 to Sardár Jawand Singh, Mokal. He held it till his death in 1840. Then his son, Bhalá Singh, succeeded. He was drowned in the Sutlej when the Sikhs were defeated at Sobráon. The *jágír* was then resumed. Hujrá and Basírpur *talúkás* were held in *jágír* by Bedí Sáhib Singh. On his death, his son, Bishn Singh, succeeded. He was followed by his son, Atr Singh. Ranjít Singh and Bishn Singh died about the same time. A court intrigue ended in the resumption of Atr Singh's *jágírs*, while he himself was shortly after murdered by his uncle, Bikarmá Singh. The *talúkás* were farmed to Sáwan Mal, and then to Fakír Chirágh-ud-dín In Máhárájah Dalíp Singh's reign the sons of Atr Singh, Bábas Sampúran Singh and Khem Singh, recovered a considerable number of their villages in the Basírpur *talúka*. They then divided them, not being on good terms with each other. They are still alive and in possession of extensive *jágírs*. *Talúka* Atári was held for some time by the Bahrwaliás. Then Dal Singh (Nabarna) Kaliánwála, and after him his son, Atr Singh, held it in *jágír*. It was resumed in 1851 on his death. It was for some time under Sáwan Mal. *Talúka* Jethpur, consisting of 40 villages, was another *jágír* of the Kaliánwála family. It was held by Chatar Singh, brother of Atr Singh. He was killed at Ferozesháh (Ferushahr), and the *jágír* was then resumed. A portion of the Dipálpur *tahsíl* was at that time attached to the Chúnián *iláka*, which belonged to Kanwar Kharrak Singh. It is managed for him by Mangal Singh (Siránwálí), who appears afterwards to have enjoyed himself. It was subsequently made over to Atr Singh (Nabarna), probably on the accession of Máhárájah Sher Singh. *Talúka* Márúf had been given to Fatah-ud-dín Kasúriá by Ranjít Singh. It was held by him till 1845, when he was killed at the battle of Ferozesháh. The Kanganpur *talúka* belonged to Lahore. It appears to have been held by the Bahrwál family, and then by Jawand Singh, Mokal. *Talúka* Shergarh belonged to Fatah Singh, Gandhí, who is said to have been a follower of Sardár Gyán Singh, Nakkaí. So was Sardár Sadá Singh, who held the *talúka* of Shádíwála, consisting of only two villages. It does not appear when these two *talúkás* were resumed. Indeed, it seems hardly correct to give them such a grand title, as they were simply parts of *talúkás* Hujrá and Jethpur till granted in *jágír*. Havelí was held in *jágír* till the death of Kharrak Singh, first by a member of the Kalál family and then by Mahan Singh Datt. Chendpur (or Kot Táhir) was part of the *jágír* of Sardár Dal Singh.

British Rule.

On the occupation of the country in 1849, a district was constituted with its head-quarters at Pák Pattan. It included so much of the present district as lies between the Rávi and the Sutlej, the trans-Rávi portion belonging to the Jhang district. In 1852 this latter tract was attached to the district, and the head-quarters moved to Gugerá, near the south bank of the Rávi, and upon the old military road from Lahore to Multán, about 30 miles to the north of the present station of Montgomery. In 1855 twenty villages were transferred from the Lahore to the Gugerá district. On the opening of the railway, Gugerá was abandoned as a civil station, and the head-

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British Rule.

quarters of the district transferred to the village of Sahíwál which became the half-way station on the line between Lahore and Multán. This took place in 1864. Subsequently in 1865, by way of compliment to Sir R. Montgomery, the new station received the name of Montgomery. About the same time the interior arrangement of the district was re-cast. It has previously been divided into five *tahsíls* having their head-quarters at Gugerá, Saiyadwálá, Hujrá, Pák Pattan, and Harappá. Now, however, Saiyadwálá and Harappá ceased to be *tahsíl* stations, and the district was divided into four quarters, the *tahsíl* of Gugerá in the north, of Hujrá in the west, of Pák Pattan in the south, and Montgomery in the east, the trans-Rávi or Saiyadwálá *parganah* being included in the Gugerá *tahsíl*. Subsequently, in 1871, the head-quarters of the Hujrá *tahsíl* were removed to Dipálpur. *

The Mutiny of 1857.

The more turbulent tribes of the district had, during generations of anarchy, become too much accustomed to robbery and violence to settle down with pleasure to a quite humdrum life, the invariable concomitant of British rule. When the mutiny broke out in 1857, they thought the time had come to resume their old habits, and the district was the scene of the only popular rising which took place north of the Sutlej. Emissaries from Dehli appeared before the end of May to have crossed the river from the direction of Sirsa and Hisár, which districts were already in open rebellion, and to have commenced an agitation. The Kharrals are divided into many *gots* or sub-divisions. Among them are the Uperá and Lakherá *gots*. The Uperá Kharrals belong principally to Jhamrá and Dánábád, in the Gugerá *tahsíl*; the Lakherá Kharrals are found about Kamália, in the Montgomery *tahsíl*. There is little love lost between these kinsmen. The battle of Dánábád, in which the Lakherás beat the Uperás, has been mentioned. The Káthiás, who hold with the Lakherás, have always been engaged in quarrels with the Uperás. In 1857 Ahmad, a resident of Jhamrá, was the leader of the Uperás; and Sarfráz Khán, of Kamália, was the chief of the Lakherás. Ahmad was a man above the average—bold and crafty. In 1848 he had induced Dhara Singh, of the Gugerá Nakkaí, to hold Satgharah against the English, and then betrayed him. It was this man who roused the tribes. All the

* NOTE.—The areas of the old five *tahsíls*, as they stood in 1856, is given below. The distribution of the same areas over the present *tahsíls* and similar figures for 1874 will be found in Chapter IV A :—

Name of *tahsíl*.	Number of villages.	*Area in acres.*					
		Maafi.	Barren or waste.	Culturable.	Lately thrown out of cultivation.	Cultivated.	Total.
Saiyadwala	236	1,320	14,381	62,477	11,440	63,080	152,698
Gugera	202	878	8,424	84,078	4,778	59,001	157,159
Harappa	210	1,317	7,510	78,895	5,329	51,154	144,205
Pak Pattan	362	989	28,304	150,582	33,034	64,284	277,193
Hujra	436	3,285	22,021	185,821	24,698	171,540	407,365
District Total ..	1,446	7,789	80,640	561,853	79,279	409,059	1,138,620

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The Mutiny of 1857.

important Rávi tribes rose, but the Sutlej tribes, with the exception of the Joyás, kept generally quiet. An outbreak in the jail was the prelude of the storm. On the night of September 16th, 1857, Sarfráz Khán informed the Deputy Commissioner that Ahmad and other chiefs had gone home to commence the rebellion. Measures were at once taken to suppress it. Jhamrá was burnt, and Ahmad shortly after killed in action. But Kamália was plundered and the *tahsíl* at Harappá captured: Mr. Berkley, Extra Assistant Commissioner, was killed near Kaure Sháh, and Major Chamberlain, who had come up with troops from Multán, was besieged at Chíchávatni. For some time the situation at the civil station was extremely critical, Lieutenant Elphinstone, who was Deputy Commissioner, having at his disposal only a small force of 200 men and 60 mounted police. In the nick of time, however, reinforcements, led by Colonel Paton, arrived from Lahore—a company of European infantry, three guns and a detachment of Sikh cavalry. An hour after their arrival they were attacked by the rebels who were, thanks to the artillery, repulsed at once. Colonel Paton's force, marching on to Chíchávatní, relieved Major Chamberlain, and the latter being joined by the Lahore Light Horse (a levy of Europeans and Eurasians) and by other troops from Multán, Jhang, and Gurdáspur, took the field against the insurgents. Several actions were fought, and the rebels were driven into the almost inaccessible jungle at Jalhí. Ultimately they abandoned this position and fled across the *bár*, towards the Sutlej. They were brought to action, and totally defeated. By 4th November the insurrection was over, and the force employed in its suppression broke up. The Joyás, who commenced by the murder of an English officer travelling on the Sutlej, took and plundered Kabúlá. Their leader, Lukmán, behaved in the most ludicrous manner, and looked heartily ashamed of himself when twitted by the people about his conduct. The result of the insurrection was not such as to encourage similar attempts. The leaders were executed or transported, and, still worse, thousands of cattle belonging to the insurgents were seized and sold. In all 5½ *lákhs* were realised from the revolted tribes. Military roads were made and additional police entertained. Since then much jungle has been felled, and a taste for agriculture is developing. The old generation has almost past away; the present has seen the evils of unsuccessful, and has never tasted the sweets of successful revolt.

Character of seasons—Famines.

In 1874 Mr. Purser thus noticed famines and the nature of the seasons:—

"Mr. Saunders has stated that 'intelligent agriculturists admit that rain is more frequent than it was during the Sikh rule' in the Lahore district; they certainly do not admit that here. They talk of the time when grass used to grow high enough to hide the cattle grazing. Now-a-days people are very glad to get gras high enough to hide a hare. But intelligent agriculturists are the last people in the world to be believed. It is, however, a notorious fact that for a long period, from 1861 to 1871, there was an unusual number of bad seasons. If the increase or decrease of vegetation has anything to say to the rainfall it is obvious that in this district, where cultivation has fallen off, and where the jungle was being cleared away by tens-of-thousands of acres, there is no reason to expect the rainfall to be larger than it was. From records in the district office and personal knowledge, I have prepared a statement showing the character of

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Character of seasons—Famines.

the seasons from 1858-59 to 1872-73. The letters G, A, I, and B, stand for 'good,' 'average,' 'inferior,' and 'bad.'

Year.	Character of seasons.	
1858-59	I	Average rainfall. Crops injured by hail and rain in April.
1859-60	I	Rainfall below average. Harvest average. Vast numbers of cattle died.
1860-61	B	Rainfall below average. Pasturage scanty. Harvest middling. Famine year.
1861-62	A	Rain opportune. Harvest average, except in canal villages. Said to have failed there.
1862-63	G	Rain abundant. Harvest good. Cotton injured, especially in Pák Pattan. Attributed to curse of Bábá Faríd.
1863-64	I	Rain scanty. *Kharíf* harvest poor. Cattle disease epidemic in autumn. Good average spring harvest owing to unusual inundations, especially on Rávi.
1864-65	B	Rain failed both harvests. Many cattle died of starvation. Wheat good. Gram destroyed by unseasonable inundations.
1865-66	G	Seasonable rains. Excellent spring harvest.
1866-67	I	Rain scanty. *Kharíf* poor. *Rabi* average. Grass scanty.
1867-68	A	Rain apparently average. *Kharíf* good. *Rabi* below average. Cattle better off than in previous year.
1868-69	B	Rain scanty. *Kharíf* bad. Grass scarce. *Rabi* fair.
1869-70	G	Heavy rain. Winter showers scanty. On whole, good year.
1870-71	A	Fair for crops; bad for grass. On whole, not good.
1871-72	B	Bad for crops and grass. Good floods on rivers. Khánwáh failed.
1872-73	A	Heavy autumn rains. Winter rains failed. Heavy showers in May 1873 did some injury to crops. *Jowár* a general failure. Grass good.

"During these 15 years there have been four average, three good, four inferior, and four bad. The great famines do not appear to have sparer this district. The principal were Tituníwálá, Lukiwálá, and Murkanwálá famines, during the Sikh times, and that of 1860-61, during British rule. The Tituníwálá famine occurred in A.D. 1783 (*san chálís*), and was so called from a black beetle *Titún* that was produced in abundance in the dung of cattle and devoured by them in turn. The Lukiwálá famine happened in A.D. 1813, and the Murkanwálá in A.D. 1833. They derive their names from grasses that sprang up abundantly when rain did come at last. The famine of 1860-61 was severely felt. Many cattle died, and it is said to have permanently raised the price of stock."

Changes of boundary.

Since the revision of *tahsíls* in 1865 several villages on each side of the Rávi have been transferred from the Gugerá to the Montgomery *tahsíl*, 19 villages and a large area of waste land have been transferred from *tahsíl* Pák Pattan to *tahsíl* Dipálpur, and other villages from the same *tahsíl* to Baháwalpur by river action. Minor changes of this nature are of constant occurrence in the banks of the Sutlej. The changes of head-quarters and *tahsíl* divisions have already been noticed at pages 37, 38.

District Officers.

The following table shows the officers who have held charge of the district since 1873. No similar information is forthcoming for the preceding years:—

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District Officers.

From.	To.	Name of District Officer in charge.
	4th November 1873 ...	Mr. T. W. Smyth.
5th November 1873 ...	3rd May 1875 ...	Lieutenant-Colonel F. M. Birch.
4th May 1875 ...	19th June 1875 ...	Mr. F. E. Moore.
20th June 1875 ...	25th February 1876 ...	Lieutenant-Colonel F. M. Birch.
26th February 1876 ...	29th July 1876 ...	Mr. M. Macauliffe.
30th July 1876 ...	1st October 1876 ...	Mr. A. H. Benton.
2nd October 1876 ...	26th June 1877 ...	Mr. M. Macauliffe.
27th June 1877 ...	30th July 1877 ...	Mr. G. L. Smith.
31st July 1877 ...	16th May 1878 ...	Mr. M. Macauliffe.
17th May 1878 ...	23rd December 1878 ...	Lieutenant-Colonel H. V. Riddell.
24th December 1878 ...	24th January 1879 ...	Mr. A. R. Bulman.
25th January 1879 ...	3rd February 1879 ...	Lieutenant-Colonel H. V. Riddell.
4th February 1879 ...	29th March 1879 ...	Mr. A. R. Bulman.
30th March 1879 ...	27th March 1881 ...	Lieutenant-Colonel H. V. Riddell.
28th March 1881 ...	11th May 1881 ...	Mr. H. W. Steel.
12th May 1881 ...	14th March 1882 ...	Lieutenant-Colonel H. V. Riddell.
15th March 1882 ...	30th April 1882 ...	Major R. Bartholomew.
1st May 1882 ...	21st August 1882 ...	Major H. J. Lawrence.
22nd August 1882 ...	13th November 1882 ...	Mr. G. L. Smith.
14th November 1882 ...	16th March 1883 ...	Mr. G. Knox.
17th March 1883 ...	12th August 1883 ...	Major C. McNeile.
13th August 1883 ...	12th November 1883 ...	Mr. J. G. Silcock.
13th November 1883 ...	31st December 1883 ...	Major C. McNeile.

General review of the past of the district.

From the above sketch of the history of the district it will be seen that there is no prosperous past on which to look back with pleasure. From the earliest time the district has been inhabited by robber tribes; for centuries it has been a prey to anarchy and savage warfare; it has been traversed by the most ferocious and sanguinary conquerors of whom we read in history. Nature itself has affected the district unfavourably. Tracts of country once irrigated from branches of the large rivers had to be abandoned when the water ceased to flow. Every inducement has been given to the people to adopt a restless roving life. That they should cling to their old habits is not surprising.

Development since annexation.

Some conception of the development of the district since it came into our hands may be gathered from Table No. II, which gives some of the leading statistics for five yearly periods, so far as they are available, while most of the other tables appended to this work give comparative figures for the last few years. In the case of Table No. II, it is probable that the figures are not always strictly comparable, their basis not being the same in all cases from one period to another. But the figures may be accepted as showing in general terms the nature and extent of the advance made. In the table on pages 42 and 43, the revenue of the district from all sources from 1857-58 to 1872-73 is shown. In 1851-52 the fixed land revenue was Rs. 3,01,166, the fluctuating land revenue Rs. 22,157, the income from customs Rs. 58, from excise Rs. 4,687, from stamps Rs. 11,623, and from miscellaneous sources Rs. 8,540, making a total of Rs. 3,48,231. In 1849 (at annexation) there were 5,841 wells: in 1859 there were 6,392, of which some 800 were unbricked; in 1879 there were 7,195, of which only 24 were unbricked. Many of the old wells have been superseded by the extension of canal irrigation; so that the effective increase is larger than would appear from the figures.

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Development since annexation.

Statement showing Revenue of all sorts from 1857-58 *to* 1872-73.

Year.	Fixed land revenue.	Fixed *ábiána*.	Fluctuating *ábiána*.	*Khám tahsíl* cultivation.	Waste lands brought under assessment.	*Tirni*.	Sale of wood.	*Múnj*.	Grass.	*Kokan ber*.	*Gul kesú*.	*Máin*.	Gardens.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1857-58	2,96,057	26,621	4,127	15,630	18,644	33,249	1,081	161	...	...	...	...	91
1858-59	2,98,722	22,478	563	1,395	1,287	32,821	1,869	60	...	...	...	...	144
1859-60	3,09,981	3,933	421	8,918	551	32,302	1,032	159	...	...	21	...	...
1860-61	2,95,425	3,041	140	4,212	223	57,938	1,504	18	51	...	12	...	35
1861-62	2,95,278	18,765	2,432	6,928	...	46,964	574	204	—	...	13	...	35
1862-63	3,02,105	37,075	4,432	7,902	1,570	55,102	781	212	...	...	10	...	35
1863-64	3,04,156	36,963	3,337	13,659	364	59,044	2,243	839	...	...	8	45	51
1864-65	3,07,493	37,315	2,926	8,000	458	67,724	15,011	1,062	...	163	8	151	25
1865-66	3,10,225	37,303	6,479	9,003	958	64,050	22,449	1,143	372	317	10	96	25
1866-67	3,11,419	38,021	5,597	8,909	2,678	64,434	34,599	867	1,348	256	50	109	...
1867-68	3,11,431	38,212	7,517	6,099	1,998	65,491	13,144	548	2,459	254	50	372	...
1868-69	2,98,767	39,069	6,480	5,704	347	64,315	5,644	982	3,061	257	52	1,224	...
1869-70	3,12,605	39,266	8,573	4,855	226	60,445	4,303	998	...	221	21	1,451	...
1870-71	3,16,158	39,146	9,602	8,330	65	91,489	4,562	2,020	...	312	21	2,023	...
1871-72	3,08,258	35,399	10,718	2,309	1,014	1,01,061	1,412	1,806	12	375	36	1,708	...
1872-73	3,13,633	38,614	13,698	7,565	840	1,08,009	7,427	...	...	...	15	2,295	...

Chapter II.

History.

Development since annexation.

Statement sh[illegible] *Revenue of all sorts from 1857-58 to 1872-73.*

Year.	*Sajji.*	Saltpetre.	Fisheries.	*Abkári.*	Stamps.	Assessed taxes.	Ferry fund.	School fund.	Road fund.	Local cess.	Postal fund.	Octroi.	*Nazúl* fund.	Revenue, fines.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1857-58	417	47	...	7,469	4,469	...	3,350	2,818	3,482	...	...	6,405	244	25	4,23,387
1858-59	923	260	...	8,400	8,128	...	2,526	3,288	3,390	...	...	2,886	3,045	277	3,92,462
1859-60	862	312	...	7,640	15,646	...	6,800	3,299	3,370	...	...	2,316	1,131	229	3,98,923
1860-61	983	300	...	7,882	10,840	3,979	7,366	3,218	3,341	...	...	3,073	66	123	4,03,770
1861-62	1,183	208	...	7,241	13,647	1,972	5,293	3,079	4,067	...	...	3,090	604	2,990	4,14,567
1862-63	1,777	208	...	8,626	12,421	1,749	7,218	3,101	4,055	...	...	2,662	253	346	4,51,640
1863-64	1,993	208	...	10,344	15,074	4,914	7,218	3,147	4,074	...	...	3,675	515	338	4,72,209
1864-65	2,146	180	...	9,312	15,335	4,803	7,197	3,173	3,019	...	...	6,092	2,325	275	4,94,193
1865-66	2,153	160	...	10,316	9,483	4,955	7,921	3,210	3,302	...	...	6,144	1,499	47	5,01,620
1866-67	2,153	92	...	8,502	14,004	5,075	6,767	3,216	3,094	...	...	5,568	454	141	5,17,353
1867-68	2,284	108	...	9,154	20,780	9,002	7,136	3,641	3,129	...	...	6,097	149	192	5,09,247
1868-69	4,220	28	...	9,590	24,188	4,461	6,531	3,292	3,144	...	...	7,837	170	77	4,89,440
1869-70	4,493	12	...	8,104	26,871	11,599	6,876	3,290	3,142	...	...	8,296	217	42	5,05,806
1870-71	4,417	8	266	11,532	25,692	11,542	7,877	3,293	3,141	...	1,727	10,414	354	74	5,54,065
1871-72	5,791	8	377	13,077	26,919	8,540	8,437	3,304	4,661	20,826	1,616	11,981	256	54	5,69,955
1872-73	...	8	450	9,980	34,231	7,871	8,203	3,150	3,092	22,382	1,575	10,914	1,148	100	5,95,200

CHAPTER III.

THE PEOPLE.

SECTION A.—STATISTICAL.

Chapter III, A.

Statistical.

Distribution of population.

Table No. V gives separate statistics for each *tahsil* and for the whole district, of the distribution of population over towns and villages, over area, and among houses and families; while the number of houses in each town is shown in Table No. XLIII. The statistics for the district as a whole give the following figures. Further information will be found in Chapter II of the Census Report of 1881 :—

Percentage of total population who live in villages	Persons	...	94·47
	Males	...	94·39
	Females	...	94·62
Average rural population per village		...	250
Average total population per village and town		...	264
Number of villages per 100 square miles		...	29
Average distance from village to village, in miles		...	2·03
Density of population per square mile of	Total area	Total population	77
		Rural population	72
	Cultivated area	Total population	76[illegible]
		Rural population	738
	Culturable area	Total population	545
		Rural population	527
Number of resident families per occupied house	Villages	...	1·[illegible]
	Towns	...	1[illegible]
Number of persons per occupied house	Villages	...	5·[illegible]
	Towns	...	5·[illegible]
Number of persons per resident family	Villages	...	5·01
	Towns	...	4·58

It has already been explained that nearly two-thirds of the total area is practically uninhabited, being occupied only by nomad pastoral tribes, and deserted even by them during certain seasons of the year.

Migration and birth-place of population.

Table No. VI shows the principal districts and States with which the district has exchanged population, the number of migrants in each direction, and the distribution of immigrants by *tahsíls*. Further details will be found in Table No. XI, and in supplementary Tables C to H of the Census Report for 1881; while the whole subject is discussed at length in Part II of Chapter III of the same report. The total gain and loss to the district by migration is shown in the margin. The total number of residents born out of the district is 37,937, of whom 21,057 are males and 16,880 females. The number of people born in the district

Proportion per mille of total population.		
	Gain	Loss.
Persons ...	89	99
Males ...	91	101
Females ...	87	98

Migration and birth-place of population.

and living in other parts of the Punjáb is 42,408, of whom 23,350 are males and 19,058 females. The figures below show the general distribution of the population by birth-place :—

Born in	Proportion per mille of resident population.								
	Rural population.			*Urban population.*			*Total population.*		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.
The district ..	915	916	915	807	870	835	909	913	911
The province ..	996	997	997	975	986	980	995	996	996
India ..	1,000	1,000	1,000	998	1,000	999	1,000	1,000	1,000
Asia ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

The following remarks on the migration to and from Montgomery are taken from the Census Report :—

"Of late years canal irrigation in the Montgomery district has received an enormous impetus from the construction of new inundation cuts, and immigrants have been attracted from the surrounding districts, and more especially from Lahore. Yet the similar extension of irrigation in Lahore, Fírozpúr, Multán, and Baháwalpur has caused extensive emigration, which has on the whole exceeded the immigration; though if the large emigration to Baháwalpur which took place when the State came under English management were deducted, the movement would be markedly in the opposite direction. The moderate percentage of males among both emigrants and immigrants shows how largely permanent the migration has been, though a portion of it is doubtless due to the movement of herds to the river valleys in consequence of the drought which preceded the Census."

Increase and decrease of population.

The figures in the Statememt below show the population of the district, as it stood at the three enumerations of 1855, 1868 and 1881 :—

	Census.	Persons.	Males.	Females.	Density per square mile.
Actuals.	1855 ..	308,020	175,633	132,387	55
	1868 ..	360,445	200,567	159,878	64
	1881 ..	426,529	232,947	193,582	77
Percentages.	1868 on 1855	117·0	114·2	120·8	117
	1881 on 1868	118·3	116·1	121·1	120

The figures given above for 1855 refer to the district as it then stood. Between that year and 1868 A.D., a tract with a population of 1,826 persons was lost, and another with a population of 3,302 gained; so that the population with which the comparison should be made is really 309,496. The figures of 1868 have been corrected for transfers of territory. It will be seen that the annual increase of population per 10,000 since 1868 A.D. has been 115 for males, 148 for females, and 130 for persons, at which rate the male population would be doubled in 60·2 years, the female in 47·1 years, and the total population in 53·6 years. Supposing the same rate of increase to hold good for the next ten years, the population for each year would be in hundreds,

Chapter III, A.

Statistical.

Increase and decrease of population.

Year.	Persons.	Males.	Females.	Year.	Persons.	Males.	Females.
1881	426,5	232,9	193,6	1887	461,0	249,6	211,5
1882	432,1	235,6	196,5	1888	467,0	252,5	214,6
1883	437,7	238,4	199,4	1889	473,1	255,4	217,8
1884	443,4	241,1	202,3	1890	479,3	258,4	221,0
1885	449,2	243,9	205,3	1891	485,5	261,4	224,3
1886	455,0	246,8	208,4				

It seems probable that the rate of increase will be sustained. Part of the increase is doubtless due to increased accuracy of enumeration at each successive enumerations, a good test of which is afforded by the percentage of males to persons, which was 57·02 in 1855, 55·62 in 1868, and 54·61 in 1881. But the loss by emigration which marked the period between 1868 and 1881 will probably not continue, while the district is an exceptionally healthy one.

The increase in urban population since 1868 has been smaller than that in rural population, the numbers living in 1881 for every 100 living in 1868 being 114 for urban and 118 for total population. This is probably due to the attraction exercised upon the commercial classes of the towns by the great trading centres of Lahore and Multán, now that railways have made communication easy and local centres less necessary and important. The populations of individual towns at the respective enumerations are shown under their several headings in Chapter VI. Within the district the increase of population for the various *tahsíls* is shown in the table below:—

Tahsil.	*Total population.*			*Percentage of population.*	
	1855.	1868.	1881.	1868 on 1855.	1881 on 1868.
Montgomery ..	72,940	76,316	94,127	104·8	123
Gugera ..	81,067	95,410	99,200	117·7	104
Dipalpur ..	102,281	129,839	154,590	127·0	119
Pak Pattan ..	53,208	57,735	78,612	108·5	136
Total District ..	309,496	359,300*	426,529	116·13	119

The table in the margin shows the distribution of the population of 1868 over the three main tracts into which the district may be divided:— A, that irrigated by canals; B, that inundated by rivers; C, that neither irrigated nor inundated †. The increase that took place in the population of the district as a whole between 1855 and 1868 was confined entirely to the tracts styled

Tahsil.	Tract A.	Tract B.	Tract C.
Montgomery ...	...	63,078	13,330
Gugerá	17,081	38,852	38,471
Dipálpur	65,654	28,081	36,913
Pák Pattan ...	2,840	17,451	37,441
Total ...	85,575	147,462	126,155

* These figures do not agree with the published figures for the whole district. They are taken from the registers in the District office, and are the best figures now available. The difference is very slight.

† There are small errors in the statements following; they are sufficiently accurate, however, for the purpose. They are adopted from a table given by the Deputy Commissioner in his report upon the Census of 1868.

Chapter III, A.

Statistical.

Increase and decrease of population.

respectively A and C. In tract B there was an actual decrease in each of the four *tahsíls*. The figures are as follows:—

Detail of increase in population, 1885 *to* 1868.

Tract.	Montgomery.	Gugerá.	Dipálpur.	Pák Pattan.
A	...	+ 3,412	+19,362	+2,549
B	−4,485	− 5,893	− 4,786	−3,543
C	+7,953	+16,818	+13,791	+5,586

Mr. Purser notes that the population remained stationary between 1855 and 1868 in the Cis- Rávi *sailàbà* tracts of Montgomery and in the well-irrigated Shergarh circle in Dipálpur ; otherwise there was a general falling off in the *sailàbà* tracts, and a considerable increase in the well-irrigated and canal circles. The increase in the parts of Dipálpur and Pák Pattan irrigated by the canals was especially large. It was in these parts that most of the grants of waste lands were made.

Births and deaths.

Table No. XI shows the total number of births and deaths registered in the district for the five years from 1877 to 1881, and the births for 1880 and 1881, the only two years during which births have been recorded in rural districts. The distribution of the total deaths and of the deaths from fever for these five years over the twelve months of the year is shown in Tables Nos. XIA and XIB. The annual birth-rates per mille, calculated on the population of 1868, were as shown in the margin.

	1880.	1881.
Males ..	17	21
Females ..	15	18
Persons ..	32	39

The figures below show the annual death-rates per mille since 1868, calculated on the population of that year :—

	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	Average.
Males ...	18	32	20	20	24	21	17	30	24	22	29	22	20	27	23
Females...	19	33	18	18	26	22	18	32	22	21	32	20	20	29	24
Persons...	19	32	19	19	25	22	18	31	23	21	30	21	20	28	23

The monthly rates from 1867 to 1873 are shown at page 16.

The registration is still imperfect, though it is yearly improving ; but the figures always fall short of the facts, and the fluctuations probably correspond, allowing for a regular increase due to improved registration, fairly closely with the actual fluctations in the births and deaths. The historical retrospect which forms the first part of Chapter III of the Census Report of 1881, and especially the annual chronicle from 1849 to 1881, which will be found at page 56 of that report, throw some light on the fluctuations. Such further details as to birth and death-rates in individual towns as are available, will be found in Table No. XLIV, and under the headings of the several towns in Chapter VI.

Age.

The figures for age, sex, and civil condition are given in great detail in Tables Nos. IV to VII of the Census Report of 1881 ; while the numbers of the sexes for each religion will be found in table

Chapter III, A.

Statistical.

Age.

No. VII appended to the present work. The age statistics must be taken subject to limitations, which will be found fully discussed in Chapter VII of the Census Report. Their value rapidly diminishes as the numbers dealt with become smaller; and it is unnecessary here to give actual figures, or any statistics for *tahsíls*. The following figures show the distribution by age of every 10,000 of the population according to the Census figures :—

	0—1	1—2	2—3	3—4	4—5	0—5	5—10	10—15	15—20
Persons ..	378	248	331	352	337	1,646	1,500	1,051	723
Males ..	349	231	305	328	317	1,530	1,490	1,093	743
Females ..	412	268	362	384	361	1,787	1,515	1,001	709
	20—25	**25—30**	**30—35**	**35—40**	**40—45**	**45—50**	**50—55**	**55—60**	**over 60.**
Persons ..	794	759	824	409	,677	310	494	141	667
Males ..	769	736	811	412	664	331	541	162	716
Females ..	823	788	838	405	692	285	435	120	602

Sex.

Population.		Villages	Towns.	Total.
All religions	1855 ..	..	..	5,702
	1868 ..	..	..	5,565
	1881 ..	5,450	5,585	5,461
Hindus	1881 ..	5,405	5,509	5,417
Sikhs	1881 ..	5,924	..	5,958
Musalmans	1881 ..	5,449	5,593	5,455

The number of males among every 10,000 of both sexes is shown in the margin The decrease at each successive enumeration is almost certainly due to greater accuracy of enumeration.

In the Census of 1881, the number of females per 1,000 males in the earlier years of life was found to be as shown in the margin. On the subject of the proportion of the sexes the Deputy Commissioner writes :—"Infanticide is "not now practised. Mu-"hammadan female children are well cared for. Though they are not "educated, they are usually kept confined to their houses. Hindús "allow their females greater liberty."

Year of life.	All religions.	Hindus.	Musalmans.
0—1	983	984	988
1—2	963	914	972
2—3	987	944	1,001
3—4	973	..	..
4—5	946	..	..

Civil condition.

The figures for civil condition are given in Table No. X, which shows the actual number of single, married, and widowed for each sex in each religion, and also the distribution by civil condition of the total number of each sex in each age-period. The Deputy Commissioner wrote as follows in his Census Report for the district:—"Early "marriages are not the custom in this district. Girls are married "between the ages of 15 and 20 ; but it is not at all uncommon for a "woman, whether Hindu or Muhammadan, to be still unmarried at the "age of 25. Perhaps the lateness of marriage accounts for the prevalence "of the crime of running away with another man's wife that is so "common in Montgomery."

Infirmities.
Sanitation.

Table No. XII shows the number of insane, blind, deaf-mutes, and lepers in the district in each religion. The proportions per 10,000 of either sex for each of these infirmities are shown in the margin. Tables No. XIV to XVII of the Census Report for 1881 give further details of the age and religion of the infirm. The

Infirmity	Males.	Females
Insane ..	10	6
Blind ..	59	59
Deaf and dumb..	12	6
Leprous ..	1	..

Chapter III, B.

Social and Religious Life.

Infirmities. Sanitation.

climate and health of the district have been already noticed at page 15. In the District Census Report for 1881, the Deputy Commissioner wrote as follows on the subject of sanitation :—

"In sanitary matters this district differs little from other districts in the Punjab. Villages are as dirty as elsewhere. Manure is stored close under the walls, and the usual excavation pits are to be found everywhere; but less harm ensues, probably because of the dryness of the climate, and the large amount of land still lying waste in the immediate neighbourhood of most villages. The greatest amount of sickness, mostly fever, occurs near canals and where there has been an unusual amount of river inundation. Usually a great deal of small-pox and pneumonia is prevalent in the cold weather; the rural population does not take kindly to vaccination, and every possible difficulty is thrown in the way of the vaccinators."

The people are, with comparatively few exceptions, an excessively hardy set and abstemious, except in the use of tobacco ; they are also fond of opium.

European and Eurasian population.

The figures given below show the composition of the Christian population, and the respective numbers who returned their birth-place and their language as European. They are taken from Tables No. IIIA, IX, and XI of the Census Report for 1881:—

Details.		Males.	Females.	Persons.
Races of Christian population.	Europeans and Americans ..	42	23	65
	Eurasians ..	6	2	8
	Native Christians ..	8	12	20
	Total Christians ..	56	37	93
Language.	English ..	40	27	67
	Other European Languages ..	..	1	1
	Total European Languages ..	40	28	68
Birth-place	British Isles ..	10	5	15
	Other European countries ..	1	..	1
	Total European countries ..	11	5	16

But the figures for the races of Christians, which are discussed in Part VII of Chapter IV of the Census Report, are very untrustworthy; and it is certain that many who were really Eurasians returned themselves as Europeans. The distribution of European and Eurasian Christians by *tahsíls* is shown in Table No. VII.

SECTION B.—SOCIAL AND RELIGIOUS LIFE.

Types of villages.

There are three types of villages—the Kamboh type, the Jat type, and the Aráín type. To one or other of these all the villages in the district may be referred. In the Kamboh type of village the houses are solidly built of mud, and have flat roofs. There is a small yard in front of the house with mud walls. The houses are close together. The whole village has a compact look. In the Jat type of village the houses sometimes are built of mud, sometimes they are made of plaited switches. Sometimes they have a mud roof, but generally they are thatched. If not built in a square, the houses are sprawling all over

Chapter III, B.

Social and Religious Life.

Types of villages.

the village site. There are no walled yards, but there are huge enclosures for keeping cattle about each house. These enclosures are very simple as a rule. A few forked branches with the forks sticking up are planted in the ground, and horizontal branches are placed on these, their ends resting in the forks. The Aráín type of village partakes of the characters of the other two, modified to some extent. Sometimes the Kamboh characteristics predominate, sometimes the Jat features are more marked. There are no walls round the villages nor ditches, as in Hindustán, nor thorn hedges. But the houses are built with their fronts facing inwards; and their backs form as it were an outer wall. There are generally some trees about the village; and occassionally the fields are fenced along the roads leading out of the *abàdi*. So altogether stealing cattle out of a village is not so simple as might be thought. Human habitations are of five kinds—(1), *pakhi*: this means primarily a screen of *tìl*;* and a shed made of such screens is also so called. It is commonly used by wandering tribes, and by people grazing cattle in the *bàr*. (2), *chhaun*: this is a shed with thatched roof and thatched sides. (3), *jhugi*: a shed with thatched roof and sides made of plaited *kàna** or switches. (4), *khudi*: a house with mud walls and thatched roof. (5), *kotha*: this is a house with walls and a flat mud roof. The walls are usually built of large cubes of sundried mud called *dhimàn*. These are made by watering a piece of ground and ploughing it. It is then watered again and ploughed and levelled while under water. The cubes are cut with a sickle, and when dry are dug out with a *kahi*. Walls built of these blocks are plastered with mud.

Houses.

Description of a village.

On coming to a village, the traveller will sometimes see in the outskirts a number of little children amusing themselves with a *chachìngal*, which is a horizontal bar, moving round a vertical post about two feet high. Here the infant villager practises walking. More common is a piece of wood, a portion of the trunk of a tree, about two feet long and eighteen inches in diameter, with a bit hollowed out on one side, so as to form a handle by which the block may be grasped. This is the *budgar* or dumb-bell, with which the athletes of the hamlet amuse themselves in the evening. Further on, at the first houses, he is stopped by a rude gate (*phalhá*) made of thorns fastened to a couple of cross-bars: while this is being removed, we may observe a cord passing across the road with a square piece of wood not unlike a prisoner's ticket, covered with hieroglyphics, suspended in the middle. This is a charm (*tawìz*) to keep off cattle-disease. A holy *fakìr* gets some small sum annually in bullion for providing these charms. They are the Hindústání *túna*, and are in great request in times of murrain. If the village is of a good size, there will probably be a flour mill (*kharàs*) worked by one bullock, or if there is much custom, by a pair. Near the wall of each house is a small earthen oven, on the top of which a pot of milk preparatory to churning will be simmering. The pot and the oven are called *dùdh karhni*. Several other earthen pots are hung upon a stick with branches called *nihni*. Several earthen cylinders or oblong receptacles for grain (*bharolà*), five or six feet high, will be ranged in the front yard. A baby will be sprawling in a cradle (*pìnghà*) swung

* Parts of the *sarr* plant (see page 18).

Chapter III, B.

Social and Religious Life.

Description of a village.

to a bar under a shed; and the women of the family will be spinning thread close by. In the lane may be seen a raised platform (*munna*), on which the master of the house takes his ease on hot nights, if his roof is thatched, or he too lazy to go to the top if it is flat. A little further on, a fire is crackling in the public oven of the village (*machhi*); and a crowd of women with dishes containing dough stand round chattering till their turn comes to get their cakes baked. A couple of huge cylinders, 12 or 15 feet high, in shape like a conical shot, are seen near the house of the village Karár These are made of thick bands of *kànà*, fastened together by pegs and plastered with mud. These are called *pallà*, and contain the grain given to the money-lender in repayment, with compound interest, of some sums he had advanced. The autocrat himself will be sitting on the ground, working a cotton-gin (*belnà*) with the utmost vigour, while near him several bedsteads (*chàrpàis*) are standing in the sun covered with cotton drying. Going out of the village, a plain mud building with three pinnacles on the roof, a platform in front strewed with grass and surrounded by a mud enclosure, is seen. Several water-pots stand on the edge of the platform. Often there is one oven for heating water. This is the *masit* or mosque. If the proprietors of the village belong to a pious tribe, half-a-dozen little boys will, in the forenoon, be seen sitting on the platform in company with their preceptor, swinging themselves backwards and forwards and repeating the *Koràn* at the top of their voices. The book itself lies before them on a stand. If we go all through the village we probably come across a few weavers at work; carpenter is making the cog-wheels of a well; there are no carts; but several nags of sorts, by the vigorous use of their lungs, insist on being noticed. At certain seasons of the year there will be a pen of young lambs at the *màchhi's* house. At other times the roofs will be red with pepper pods drying in the sun. The stacks of dried dung-cakes used for fuel must not be forgotten; nor the village dogs. There is not much else to see in an ordinary village, and some of the things mentioned here will not be found in most. There are no tanks and no large trees such as are found on the other side of Sutlej. But, in return, there are no pigs and no peacocks.

Nomad encampments.

Besides regular villages, the district contains *rahnàs* or permanent encamping-grounds, which deserve a few remarks. The encamping-grounds are scattered all over the vast space which intervenes between the cultivation on the banks of the Rávi and that on the Sutlej. They generally consist of a large circle of sheds which form the habitation of the cattle herds of the pastoral tribes during a large portion of the year. The centre is occupied at nights by the herds, and generally contains a narrow and deep well from which water can only be obtained with much labour, and apparently in very insufficient quantities. The immense herds of cattle which roam about the centre of both the Bári and the Rachná Doáb, remain in the vicinity of these *rahnàs* from the commencement of the rains till the end of February. On the approach of the hot season the scanty herbage of these tracts becomes generally insufficient for their support, and they are driven down to the banks of the rivers, where the vegetation which covers the lands thrown up by the floods of the previous year, affords them ample pasturage till the commencement of the next

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rainy season. The word *rahna* is applied to permanent encamping grounds, to which the herdsmen regularly resort every season, and which are known by the names of the tribes to whom they have belonged for generations. Temporary stations for a single season are called *bhanis*, and, when the herd is chiefly composed of camels, the encampment is known by the name of *jhok*.

Household furniture.

A list of the furniture and household utensils, with their prices, found in families of average means, is given at page 55 of Mr. Purser's Settlement Report. The total cost amounts to Rs. 41-6. No doubt many families manage to get on with less; and the prices entered are, perhaps, more than villagers would have to give, but the sum total is approximately correct. There are also a number of earthen plates, pots, &c., made by the village potter as part of his contract duties.

Clothing of men.

The clothes worn by natives in this district seem few and simple; but the more one inquires into the matter, the more hopeless one becomes of ever understanding it. Men invariably wear a turban of white cloth called *pag*, and costing from Re. 1 to 8 annas; they wear shoes costing from Re. 1 to 8 annas; also boy's shoes cost 4 annas a pair. Besides, they have two sheets; one they wear round the upper part of the body, the other is wrapped round the waist, and is either tucked in at the back after being passed between the legs, in which case it is called *dhotí*, or else it is allowed to hang down round the lower part of the body like a tight petticoat, when it is called *majhlá*. This is the Hindústání *tahmad*. A *dhoti* is, however, usually of only one breadth and 10 *háths* long; while a *majhlá* is only 6 to 7 *háths* length, but has two breadths of cloth in it. *Dhotís* are worn by Hindú men; *majhlás* by Hindús and Muhammadans, men and women. Occasionally a tunic, called *kurta* when worn by men, and *jhagga* when worn by women and children, is seen. But among men of the agricultural tribes its use may be said to be unknown. The dress worn by Muhammadan and Hindu boys and adults in the cold weather and hot weather, with the prices of the garments, is shown in great detail at page 57 of Mr. Purser's Report. *Múka* is simply the checkered upper sheet worn by boys; it is about 2 feet by 2¾ feet. It is said to be called also *dolá* when worn by Hindús, and *rountá* when worn by Muhammadans. *Khaddar*, *adhotar*, *drés*, and *khásá* are kinds of cloth. *Lúngi* is a sheet woven in checks, generally white and dark blue. The lower *lúngí* has a border at one end called *kanní*; the upper *lúngi* has a border at both ends. *Khes* is a cloth woven in a peculiar way. It may be plain or variegated *(dabbá)*. It has in the latter case usually blue and white checks, and is much worn by Kambohs and Muhammadans.*

Clothing of women.

Women's shoes cost from 12 to 6 annas; girl's shoes the same as boys. Women wear trousers called *suthan* made of *súsí*, a cloth with stripes lengthwise. The ground is usually blue and the stripes red or white, or else they wear a petticoat called *lahingá* or *ghagrá*. The former name is more in use by towns-people, the latter by villagers. The *lahingá*, too, is usually made of finer stuff than the *ghagrá*. They are both generally dyed red or blue. Sometimes, at the time of

* Handbook of Manufactures and Arts of the Punjab (p. 1 *et seq.*) concerning the different kinds of cloth.

Clothing of women.

dyeing, some parts of the cloth are tied, and so remain uncoloured. On the upper part of the body a boddice is worn, either with or without a *kurtí* or *jhaggá*. The *kurtí* is a shirt with sleeves reaching only half way to the elbows. It may be of any cloth or colour. When worn without the *kurtí*, the boddice is called *cholí*. It covers the breasts, and has a slip running further down in front. It has short sleeves and is tied behind. This is usually worn by Hindús. The *angí* is a boddice worn with the *kurtí*, and differs from the *cholí* only in having no front slip. Muhammadan women mostly wear this kind of boddice under the *kurtí* Over their heads women wear a shawl. There are several kinds. The most common are as follows: the *phulkárí*. The cloth of this is dyed, and then designs are worked on it with silk of different colours with the needle. *Chuní*, much the same as *phulkárí*, but smaller, and worn by girls. *Salárí*: this shawl has two colours, woven in lengthways. *Chaklá* is the same as *salárí* with broader stripes. *Bhochan* or *dopatta*, if coloured; the colours are printed and not woven in. *Sálú* and *lassá* are dyed a rusty red, called *thandápání*, and differ chiefly in the kind of cloth of which they are made. Lastly, *shál q. d.* shawl, printed in gaudy colours, and mostly worn by women of the *kamín* class. A statement showing the clothes worn by women and girls, similar to that given for men and boys, will be found at page 59 of Mr. Purser's report. *Chop* is a *phulkári* with flowers on the border only. It is dyed red. *Bágh* is the same as *phulkárí*, but the designs are closer together and more numerous. It is not to be supposed that the *phulkárí*, *chop*, *bágh* and *bhochan* are all worn at one and the same time by the same person.

Ornaments.

A women ought to have the following ornaments. It is a point of family honour to provide them, if possible. Other ornaments are luxuries; these necessaries :—

Silver bracelets (*hathkarián*), costing Rs. 10 to 30 the pair.
Armlets of silver (*bhawatta* before mariage, *tád* after marriage), costing Rs. 10 to 12 the pair.
Silver ear-rings ((*wálián*), costing Rs. 4 to 5 the set.
Silver ear-drops (*patar*) ,, ,, 12 the pair.
Gold nose-ring (*nath*) ,, ,, 3 to 20 each.

Bedding.

Bedding consists of a *lef* (*líháf*) of printed *khaddar*, stuffed with cotton. It has a cover or *ulara*. This is worn over the body; a similar quilt called a *tulài* is placed beneath. Another covering is the *dohar*, a coarse cotton sheet with blue border and black stripes lengthwise. Fine blankets (*loi*) are also used; but coarse blankets (*bhúra*) are left to farm labourers and other poor people.

Food.

As a rule, the people have their food cooked at home during the cold weather, and at the public oven of the *máchhi* during the hot season. The *máchháni* gets a portion of whatever she bakes, for the cook is generally a female. This wage is called *bhára*. The staple food consists of wheaten cakes. In the cold weather, *jowár*, *chína* or *kangni*, generally takes the place of wheat, but if a *zamíndár* has wheat, he eats it. *Chína* is boiled and used like rice; *kangni* is made into large thick cakes which are palatable enough when hot, but very dry when cold. *Jowár* is also used in the shape of cakes. With these cakes *dál* (the split grain) of gram, *másh*, or *múng*, or vegetables, are eaten. In the hot weather especially, vegetables, chiefly pumpkins

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Food.

of sorts, are used. In the cold weather, turnips, carrots and *sàg* (greens) take the place of pumpkins. Besides, all *zamìndàrs* drink large quantities of milk or butter-milk, generally the latter. Meals are taken twice a day, about 10 A. M. and after sunset. The food is almost always cold. If any food remains over from the evening meal it is eaten in the morning with some butter-milk. Parched gram is occasionally eaten in the afternoon, between the two meals. Butter or *ghì* (clarified butter) is commonly used with the cakes; salt, spices, and *gùr* (molasses) are also articles of diet in common use. It is not easy to ascertain the quantity of food which a man consumes per diem. But it is approximately from ⅔ to ¾ of a seer of flour, 2 *chitàk* or ⅛ of a seer of *dàl*, ½ *chitàk* of *ghì*, and from ½ to 1 seer of butter-milk or milk, with 8 *màshe* of salt, or 6 pounds per annum. The allowance of salt is rather under the average consumption in the Punjab. The following form will show roughly the amount of food used by a man during the year and its cost:—

Articles of food.	Daily allowance.	Total amount used in a year, say	Cost in seers per rupee, say	Total cost, say		
				Rs.	A.	P.
Flour (of various sorts) ..	¾ seer.	6 mds. 34 seers.				
Dal ..	⅛ ,,	1 ,, 6 ,,	20 seers.	13	11	0
Milk or butter-milk ..	¾ ,,	6 ,, 34 ,,	16 ,,	2	14	0
Butter ..	½ *chiták.*	11¾ ,,	20 ,,	13	11	0
Salt ..	8 *mashas.*	3 ,,	3 ,,	3	11	0
Red pepper ..	½ pound.	..	9 ,,	0	5	4
Vegetables ..	..	5 *marlas.*	..	0	8	0
			2 annas per *marla.*	0	10	6
Gur, spices, parched gram, &c., ..	..	..		3	8	8
			Total ..	39	0	0

This is a fair estimate for a *zamìndàr* in average circumstances. People well off will spend more, and the poor fare worse; women and children of course consume less food. The *zamìndàr* has to buy next to nothing on account of food. No allowance has been made for fuel, because as much as is wanted can be got in the jungle for nothing.

The following estimate of the annual consumption of food by a family of five persons, including two children, was furnished for the Famine Report of 1869:—

For an agriculturist's family.			*For a family of a non-agriculturist.*		
Description of grain.	Maund.	Seers.	Description of grain.	Maund.	Seers.
Wheat	20	0	Wheat	20	0
Rice	1	30	Rice	3	0
Jowar (great-millet)	4	0	*Jowar* (great-millet)	1	3¾
Kangni and *china*	2	7½	*Makki*	1	0
Makki (Indian-corn) ..	2	0	Total ..	25	3¾
Jau (barley)	2	0			
Total ..	31	37½	*Dal* as above	1	8
Gram *dal*	1	8			
Moth (*Phaseolus radiatus*) ..	1	32			
Masur (*Ervum lens*)	0	15			
	3	15			

Use of tobacco and opium.

Every man smokes, and so does every urchin as soon as he is big enough to carry the *hukka*; women do not smoke. The use of opium is very common. Almost every man has a bit wrapped up in the end

Social and Religious Life.

Amusements.

of his turban. Religious mendicants are especially addicted to the use of this drug.

The amusements of the people, to an ordinary observer, seem few and dull. Little boys may be seen beating a ball about with a stick, and their elders pitch the *budgar* or dumb-bell about. On occasions of extraordinary festivity, such as fairs, they are completely satisfied with incessant tom-toming, riding about two on a horse or three on a camel, and a swing in a merry-go-round, now and then.

Daily occupations.

The male portion of the agricultural population is more or less employed in some one or other of the operations of husbandry all the year round, and this is especially the case in the tracts where crops are artificially irrigated; but the men of the pastoral tribes lead a comparatively lazy life, the demands on their labour being limited to drawing water for the cattle and milking the cows. Women, on the other hand, are everywhere hard worked, the drudgery of their domestic occupations leaving them scarcely any leisure for rest or amusement. They must be up before it is light, to churn the milk of the night before, and then sweep the house, throw away the rubbish, and make cakes of the cow-dung. Water has then to be fetched. When this is over, it is time to commence cooking the morning meal, which, when ready, has to be taken to the men working in the fields. If after this their services are not required to watch the crops and frighten away the birds, they are expected to spin cotton or wool to be made into clothing for the family,—indeed the two occupations are often combined. Again, early in the afternoon preparations have to be made for the evening meal, the vegetables or *dál* are placed on the fire, and a second trip made to the village well for water. By the time they return, it is time to knead the flour, make it into cakes, and cook it for their husbands, sons, and brothers; these lords of the creation will assist in tying up and milking the cows. This done, the milk is put over a slow fire to warm, and the family sits down to dinner; and so the days pass with little variation from year to year.

Divisions of time.

The following is the list of the recognized divisions of time :—

Reorganized divisions of time with		Corresponding English time.
Muhammadans.	Hindus.	
Namaz wela ..	Bharbhat wela ..	A little before sunrise.
Wadi wela ..	Wadi wela ..	Till one hour-and-a-half after sunrise.
Roti wela ..	Roti wela ..	From wadi wela till a watch and a half after sunrise.
Kulahar ..	Kulahar ..	One watch and a half after sunrise.
Dopahar ..	Dopahar ..	Noon.
Peshi wela ..	Laudha wela ..	3 P. M.
Digar wela ..	None ..	An hour before sunset.
Nimashan wela or Sham wela.	Sandhia wela, Tarkalan wela ..	Sunset.
Sota wela ..	Sota wela ..	From sunset till one watch of the night has passed.
Adhi rat ..	Adhi rat ..	Midnight.
Pahar rat ..	Pahar rat ..	When one watch of the night remains.
Baki rahi ..	Baki rahi ..	

Sindh is a song sung between 3 P. M. and sunset, so *sindhia wela* probably embraces that period of time.

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Social and Religious Life.

Marriages.

The ceremonies connected with births, marriages, and deaths need not be described ; but a few words may be said concerning negotiations preliminary to marriage and marriage expenses. Muhammadans generally marry after the harvest in Jéth and Hár (middle of May to middle of July) ; Hindús do not marry in Chetr (middle of March to middle of April), or Kátik (middle of October to middle of November). Among the former, the *mirási* conducts the negotitions for betrothal, coming from the boy's father : among Hindús, the Brahman does, coming on the part of the girl's father. Among persons closely connected, it is considered disgraceful to make marriage a money matter ; but not so if the families are of different clans, or even different sub-divisions of the same clan. As a rule, the girl is always bought, the price ranging from Rs. 50 to Rs. 500. "Over-assessment" not seldom means that a fancy price has been given for a daughter-in-law. According to the universal opinion of the people, the mercenary nature of marriage has been developed only since the introduction of English rule. This may be perhaps explained by the fact that former rulers took good care their subjects should not squander the money, by appropriating it for their own use. If the go-between is successful, the father of the boy goes to the girl's father and arranges matters. For the girl's father to move in the matter first would be disgraceful. The betrothed pair may be mere children, in which case the marriage takes place when they have grown up. Marriage is attended with few expenses except the dowry. Few people attend ; the food provided is of a cheap kind ; and the cost of bringing the guests (who are expected to make the bridegroom a present) to and fro is *nil*. After marriage, the married pair live in a house prepared for them near that of the husband's father, with whose family they have their meals.

General statistics and distribution of religions.

Table No. VII shows the numbers in each *tahsil* and in the whole district who follow each religion, as ascertained in the Census of 1881, and Table No. XLIII gives similar figures for towns. Tables Nos. III, IIIA, IIIB, of the report of that Census give further details on the subject. The distribution of every 10,000 of the population by religions is shown in the margin. The limitations subject to which these figures must be taken, and especially the rule followed in the classification of Hindús, are fully discussed in Part I, Chapter IV, of the Census Report. The distribution of every 1,000 of the Musalmán population by sect is shown in the margin. The sects of the Christian population are given in Table No. IIIA of the Census Report ; but the figures are, for reasons explained in Part VII, Chapter IV of the Report, so very imperfect that it is not worth while to reproduce them here. Table No. IX shows the religion of the major castes and tribes of the district, and therefore the distribution by caste

Religion.	Rural population.	Urban population.	Total population.
Hindu ..	1,851	3,862	1,969
Sikh ..	282	251	280
Musalman ..	7,865	5,869	7,748
Christian ..	1	18	2

Sect.	Rural population.	Total population.
Sunis ..	994	993
Shiahs ..	4·7	5·9
Others and unspecified ..	0·6	0·5

General statistics and distribution of religions.

of the great majority of the followers of each religion. A brief description of the great religions of the Punjab and of their principal sects will be found in Chapter IV of the Census Report. The religious practice and belief of the district present no special peculiarities; and it would be out of place to enter here into any disquisition on the general question. The general distribution of religions by *tahsils* can be gathered from the figures of Table No. VII; and regarding the population as a whole, no more detailed information as to locality is available. The landowning classes and the village menials are almost wholly Musalmán ,and the Hindu and Sikhs are chiefly commercial. The Hindu landowners chiefly lie above the Sutlej, and especially in the centre and east of the Dipálpur *tahsil*.

Superstitions.

The people are very superstitious. The charms against cattle-disease have been mentioned elsewhere. There are lucky and unlucky days for commencing agricultural operations, and extraordinary care has to be taken to prevent demons carrying off grain that has been threshed, but not stored. When a boat is about to sail, or when the rivers are abnormally low, or set against a man's land and commence to wash it away, vows are made and sacrifices offered to the rivers. Vows are called *asìsa*. Muhammadans make them in the name of Khizr. Their sacrifice is wheat *daliya* mixed with molasses. Hindús prepare a dish called *chùrma*. Part of both is thrown into the river. The Hindús eat what remains of the *chùrma* themselves, sharing it with those present; the Muhammadans give what remains of the *daliya* to the poor. Miracles are worked even now-a-days. In 1870 a holy *pìr* in the Dipálpur *tahsìl* performed a miracle. The agricultural Hindu has cast off many prejudices still clung to elsewhere. He will carry cooked food about with him and eat it anywhere. He cares nothing for the *chauka*. He will drink water from the hand of any other Hindu or Sikh, and from the leather water-bag of a Muhammadan.

Fairs.

Intimately connected with the subject of the last paragraph are the fairs of the district. These are all semi-religious meetings. Fairs for the mere purchase and sale of goods are unknown; nor are there any weekly *bàzàrs* or market-days. The gatherings that do take place are often the occasion of a little trafficking. All the principal fairs are held in the two Sutlej *tahsìls*. Below is a list of them. The first two take place in the Pák Pattan, the rest in the Dipálpur *tahsìl*:—

Place where fair is held.	Person in whose memory it is held.	Date on which fair is held.	Number of visitors.
Pak Pattan ..	Baba Farid ..	5th and 6th of Muharram ..	50,000
Shekh Fazil ..	Shekh Mahd. Fazil	Jamadi-ul-awwal ..	4,500
Bahlolpur ..	Bhuman Shah ..	Har ..	7,000
Jhang Abdulla Shah	Abdulla Shah ..	Har ..	6,000
Kadirabad ..	Bhai Sewa Singh	Baisakh (1st) ..	6,000
Bhuman Shah ..	Bhuman Shah ..	Ditto " ..	5,000
Shergarh ..	Daud Bandagi ..	Chait ..	2,000
Dipalpur ..	Lalujas Raj ..	Magh, each Sunday ..	1,250

Language.

Table No. VIII shows the numbers who speak each of the principal languages current in the district separately for each *tahsil* and for the whole district. More detailed information will be found in

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Language.

Language.	Proportion per 10,000 of population.
Hindustani ..	24
Bagri ..	10
Kashmiri ..	1
Punjabi ..	9,952
Jatki ..	3
Pashtu ..	7
All Indian languages	9,998
Non-Indian languages	2

Table No. IX of the Census Report for 1881, while in Chapter V of the same report the several languages are briefly discussed. The figures in the margin give the distribution of every 10,000 of the population by language, omitting small figures. A glossary of many of the agricultural terms used in the district, which was compiled by Mr. Purser, late Settlement Officer of Montgomery, is given as an appendix to his report.

Education.

Table No. XIII gives statistics of education as ascertained at the Census of 1881 for each religion and for the total population of each *tahsíl*. The figures for female education are probably very imperfect indeed. The figures in the margin show the number educated among every 10,000 of each sex according to the census returns. Statistics regarding the attendance at Government and aided schools will be found in Table No. XXXVII. The distribution of the scholars at these schools by religion and the occupations of their fathers, as it stood in 1881-82, is shown in the margin. Besides Government and aided schools, there are 123 indigenous Muhammadan schools or *maktabs*, and 30 *patshálas* or Hindu schools. Mr. Purser notes that "the people have no taste for instruction."

	Education.	Rural population.	Total population.
MALES.	Under instruction ..	113	141
	Can read and write ..	408	487
FEMALES.	Under instruction ..	2·1	3·2
	Can read and write ..	1·5	2·4

Details.	Boys.	Girls.
Europeans and Eurasians	..	..
Native Christians ..	..	..
Hindus ..	806	5
Musalmans ..	262	..
Sikhs ..	164	..
Others ..	..	..
Children of agriculturists	601	22
„ of non-agriculturists	631	23

Character and disposition of the people.

The character and disposition of the people is thus described by Mr. Purser:—

"The people of this district are a bold, sturdy set; they are unsophisticated and can laugh. But they avoid speaking the truth upon principle, and withal lie in such an artless and reckless way that a Hindústání would blush with shame at their silliness. They completely fail to grasp the idea of rights in property, when the property appears in the shape of their neighbour's cattle or wife. They are only moderately industrious. Some say they are lazy, but they are not. They are extravagant, ignorant, and superstitious. To travellers they extend a tolerable hospitality; but Hátim Tái need not look to his laurels on account of their rivalry. In fact they seem made up of bad qualities and half-hearted virtues; yet there must be something good about them, for one gets to like them; but why, it would be hard to say."

Table Nos. XL, XLI and XLII give statistics of crime; while Table No. XXXV shows the consumption of liquors and narcotic stimulants.

Poverty or wealth of the people.

It is impossible to form any satisfactory estimate of the wealth of the commercial and industrial classes. The figures in the

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Tribes, Castes, and Leading Families.

Poverty or wealth of the people.

Assessment.		1869-70.	1870-71.	1871-72.
Class I.	Number taxed ..	670	517	422
	Amount of tax ..	7,036	10,082	3,683
Class II.	Number taxed ..	106	249	199
	Amount of tax ..	2,291	6,723	2,724
Class III.	Number taxed ..	9	93	40
	Amount of tax ..	579	3,627	1,187
Class IV.	Number taxed ..	1	48	2
	Amount of tax ..	165	2,592	232
Class V.	Number taxed ..	1	20	..
	Amount of tax ..	165	1,592	..
Total ..	Number taxed ..	786	927	663
	Amount of tax ..	10,071	24,616	7,826

margin show the working of the income tax for the only three years for which details are available; and Table No. XXXIV gives statistics for the license tax for each year since its imposition. The distribution of licenses granted and fees collected in 1880-81 and 1881-82 between towns of over and villages of under 5,000 souls, is shown in the margin. The income tax returns of 1871-72 show only ten bankers and money-lenders enjoying an income of above Rs. 750 per annum; while in 1869-70 there were only 23 shown as having incomes above Rs. 500. But the numbers affected by these taxes are small. It may be said generally that a very large proportion of the artisans in the towns are extremely poor, while their fellows in the villages are scarcely less dependent upon the nature of the harvest than are the agriculturists themselves, their fees often taking the form of a fixed share of the produce; while even where this is not the case, the demand for their products necessarily varies with the prosperity of their customers. Perhaps the leather-workers should be excepted, as they derive considerable gains from the hides of the cattle which die in a year of drought. The circumstance of the agricultural classes are discussed below in Section C.

	1880-81.		1881-82.	
	Towns.	Villages.	Towns.	Villages
Number of licenses ..	88	586	106	556
Amount of fees ..	1,620	8,690	1,790	8,530

SECTION C.—TRIBES, CASTES, AND LEADING FAMILIES.

Statistics, tribes, and castes.

Table No. IX gives the figures for the principal castes and tribes of the district, with details of sex and religion; while Table No. IXA shows the number of the less important castes. It would be out of place to attempt a description of each. Many of them are found all over the Punjab, and most of them in many other districts; and their representatives in Montgomery are distinguished by no local peculiarities. Some of the leading tribes, and especially those who are important as land-owners, or by position and influence, are briefly noticed in the following sections; and each caste will be found described in Chapter VI of the Census Report for 1881. The Census statistics of caste were not compiled for *tahsíls*, at least in their final form. It was found that an enormous number of mere clans or sub-divisions had been returned as castes in the schedules, and the classification of these figures under the main heads shown in the caste-tables was made for districts only. Thus no statistics showing

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the local distribution of the tribes and castes are available. But the general distribution of the more important land-owning tribes, which is shown on a map attached to Mr. Purser's Settlement Report, is broadly described below. Much information regarding the origin, traditions, and early history of many of the tribes has already been given in Chapter II.

Caste superseded by tribe.

In Montgomery, as in all the western districts, where the influence and example of the frontier races is strong, caste is, for the great mass of the population, little more than a tradition of origin; and the social unit is the tribe. Thus many of the local tribes have returned themselves indifferently as Jats or as Rájpúts, and appear partly under one heading and partly under the other; while many claim Arab or Moghal descent, and have returned themselves as Shekh or Moghal. The following account of the principal tribes and castes is taken for the most part from the Settlement Report by Mr. Purser, who had intimate and extensive local knowledge. In some cases the conclusions he arrives at do not exactly agree with those stated in the Census Report of 1881, where the field reviewed was broader; but so little is known of the people that the difference is only one of opinion; and as regards this particular district, Mr. Purser's opinion is probably the more correct.

Jats and Rájpúts.

The term Jat is, for the reasons stated in the last paragraph, of the most indefinite significance, and is commonly used to include all those miscellaneous pastoral and agricultural tribes who, being Musalmáns of Indian origin, do not distinctly lay claim to Rájpút rank. Thus it becomes almost a matter of opinion whether each tribe should be classed as Jat or as Rájpút, and, as already stated, the same tribe often appears under both headings. The following figures show some of the principal headings under which the Jats and Rájpúts of Montgomery returned themselves at the Census of 1881:—

Sub-divisions of Rájpúts and Jats.

Rajputs. Name.	Number.	Jats. Name.	Number.
Bhatti	12,600	Uthwál	641
Panwár	3,083	Bhatti	3,528
Túnwár	439	Chauhán	1,792
Joya	4,397	Sindhu	726
Chauhán	1,355	Siddhu	474
Dhuddi	1,507	Siál	1,202
Ráthour	705	Sarra	747
Siál	6,684	Khokhar	2,157
Kharral	3,444	Kharral	2,361
Khichi	2,363	Hinjra	600
Khokhar	1,058	Chaddar	2,687
Wattú	11,544	Arar	1,192
Awán	1,277	Joya	2,003
		Panwár	726
		Jutá	2,165
		Dhuddi	1,349

Note.—Some of these people appear under two headings. Thus 476 Khichi are also shown as Chauhan.

Pastoral and agricultural tribes.

A far more essential distinction than that between present Jat and Rájpút status is afforded by the political position of the respective tribes, and the corresponding difference in their favourite pursuits. Mr. Elphinstone writes as follows:—

"The population is distinctly divided into two marked sections—the purely agricultural inhabitants and the pastoral tribes. The former

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Pastoral and agricultural tribes.

consist of the castes, both Muhammadan and Hindu, which are generally met with throughout the Eastern Punjab, *viz.*, Aráíens, Kambohs, Hindu Jats, &c. But the latter are almost entirely confined to the region which extends from the southern extremity of the Multán district to within thirty miles of Lahore. They are all Muhammadans, and their favourite occupation is the breeding and grazing of cattle. They are locally known by the name of Jats, in contradistinction to the more settled inhabitants, who call themselves ryots or subjects. The most important tribes are the Kharrals, Fattiánás, Murdánas, Khátias, Wahníwáls, Baghelas, Wattús, and Joyás. The two latter are chiefly confined to the Sutlej, but the others only possess land on the Rávi, and graze their herds in the two Doábs adjoining that river.

Great and Little Rávi tribes.

"The Ravi tribes just enumerated call themselves the 'Great Rávi' and include all the purely agricultural class residing within their own limits under the name of 'Small Rávi' or 'Nikki Rávi,' a term of reproach with reference to the more settled pursuits of these people, their comparatively peaceful habits, and probably the state of subjection in which they were placed when the 'Great Rávi' had uncontrolled authority in this region. Besides the 'Small Rávi' there is another class in this tract, who unhesitatingly recognize the 'Great Rávi' men as their superiors. It is composed of refugees and emigrants from other parts of the Punjab, and of the Mahtams, a peculiar Hindu tribe, who delight in the most swampy parts of the alluvial lands, and rarely appear as proprietors of the soil they cultivate. These are included under the name of Wásíwáns, and are not unsimilar in origin to the class of that name among the Afghán tribes."

The "Great Rávi" Jats are a handsome, sturdy race. Their appearance has been remarked upon by several writers. The Greeks (supposing the identification of the Káthias with Arrian's Kathæoi to be correct) speak of them as being tall and handsome in person. According to Curtius and Diodorus, Sophites (to whom General Cunningham attributes a close connection with the Kathæans) far exceeded all his subjects in beauty, and was upwards of six English feet in stature. Burnes speaks of the Káthias as "a tall and handsome race," and the author of the History of the Sikhs calls them "tall and comely."* Mr. Elphinstone speaks of the Kharrals as "generally above the "average height; their features very marked, and their activity and "endurance remarkable." Most of the Great Rávi tribes lay claim to a Rájpút origin, and they one and all look down with some contempt upon men who handle the plough. They possess land, but its cultivation is left to inferior castes. The most characteristic perhaps of the customs attributed to these clans is their aversion to early marriages. None of them allow their children of either sex to marry until after they have attained the age of puberty. It is probably owing to this fact that their physical superiority is maintained to this day unimpaired. Their language is Punjabi, and their Hindu origin is attested by the fact that they still keep up Hindu *parohits* who take a prominent part in their marriage festivals.

Origin of the chief tribes.

It would be useless to go into any long details concerning the origin of the different tribes and their sub-divisions or *muhins*. There

* Cunninghm's Arch. Rep. ii., p. 35—6. General Cunningham adds the testimony o[illegible]l Fazl in the *Ain-i-Akbari* (ii, p. 70); but the passage quoted refers to the p[illegible]of Káthiáwár in Gujarat, and it is by no means certain that these are of the s[illegible]ce as the Káthia Jats of this district.

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Origin of the chief tribes.

is a wonderful similarity between all their traditions. The ancestor of each tribe was, as a rule, a Rájpút, a Rája of the Solar or Lunar race, and resided at Hastinapur or Dáránagar. He scornfully rejected the proposals of the Dehli Emperor for a matrimonial alliance between the two families, and had then to fly to Sirsa or Bhatner, or some other place in that neighbourhood. Next he came to the Rávi, and was converted to Islám by Makhdúm Baháwal Hakk or Bába Faríd. Then, being a stout-hearted man, he joined the Kharrals in their marauding expeditions, and so his descendants became Jats. In Kamr Singh's time they took to agriculture and abandoned robbery a little, and now in the *Sarkàri Ràj* they have quite given up their evil ways, and are honest and well disposed. However, a short notice of the more remarkable clans may not be out of place.

Location of the principal tribes.

On the Rávi to the north, the first considerable clan is that of the Máns, who are succeeded by the Kharrals occupying both banks of the river; next come the Wattús on the border lands of the Montgomery and Gugerá *tahsìls*, and after them the Khaggás. They are followed by the Siáls. Then come the Káthias and Kamália Kharrals. The succession of tribes on the Sutlej bears some resemblance to that of the Rávi clans. Thus the Gugerá Máns are represented by the Dipálpur Arars on the Lahore border; the Wattús take the place of the Kharrals and extend the whole length of the Sutlej to nearly due south of Pák Pattan. As there is a Wattu colony on the Rávi, so there is a Kharral colony on the Sutlej, nearly on the border of the Pák Pattan and Dipálpur *tahsìls*. The Khaggás are represented by the very similar Chishtís, while the Háns, though as regards numbers and influence now far inferior to the Siáls, may, from their past importance, pair off with them. Finally, the Joyás in the extreme south of the Pák Pattan *tahsìl* represent the Káthias. Arorás are numerous about Pák Pattan and Kamália, while their place is taken in the northern portion of the district by their kinsmen, the Khatrís. Kambohs occupy a good deal of land on the Khánwáh canal, below Hujrá, and are to be found also to the north and west of the town of Pák Pattan.

The Kharrals.

The Kharrals are the most northerly of the great Rávi tribes, occupying a great portion of the land between Gugerá and the Lahore district on both sides of the river, and extending some distance into the Gújránwála district. The Kharrals were Rájpúts. Their ancestor was Rája Karan of Hastinapur. His descendant Bhúpa left that place and came to Uch, where he and his son Kharral were converted by Makhdúm Jahania Sháh. From Uch the Kharrals spread over the country about the Rávi. Their principal *muhins* are the—

Lakherá	with	head-quarters	at	Kamália.
Upera	,,	,,	,,	Jhamra and Dánábád.
Rabera	,,	,,	,,	Fatahpur.
Gogairah	,,	,,	,,	Gugera.
Rausính	,,	,,	,,	Pindi Cheri and Pír Alí.

The Kharrals never got on with each other. The feuds of the Lakherás and upper Rávi Kharrals have been noticed. The tragic adventure of Mirza and Sahibán is said to have been the caus[illegible] desperate quarrels. Mirza was a Kharral of the Sahi *muhin* [illegible] resided at Dánábád. He went as a boy to Khewa in Jhang, [illegible]

The Kharrals.

he fell in love with his cousin Sahibán, the daughter of the chief man of the place. Her parents betrothed her to a youth of the Chadhar tribe; but before the marriage could take place, Mirza ran away with her. He was pursued and slain. Her relations strangled Sahibán. The Dánábád Kharrals then attacked the Chadhars and Mahnike, to which clan Sahibán belonged, and recovered the corpses of the lovers, and buried them at Dánábád, where the graves may be seen to this day. These murders were the cause of such bloody feuds between the clans that it at length was thought inauspicious to have daughters, and as soon as they were born they were strangled as Sahibán had been. This custom of female infanticide was common among the Kharrals till Colonel Hamilton, Commissioner of Multán, persuaded them to discontinue it. It does not appear whether Sahibán's father was a Siál or a Kharral. But enmity to the Siáls was the bond of union among the Kharrals. Of the latter, Mr. Elphinstone remarks :—"In stature the Kharrals are generally "above the average height; their features are very marked, and their "activity and endurance are remarkable. In turbulence and courage "they have been always considered to excel all the others except "the Káthias." They are wasteful in marriage expenditure, hospitable to travellers, thievish, and have very little taste for agriculture; the cultivation in their villages being largely left to the inferior castes, and the Kharrals contenting themselves with realising their share of the produce. They possess land only in tracts inundated by the rivers, mere well cultivation being too laborious a task even for their dependants. They still follow many Hindu customs, especially on the occasion of marriage.

The Wattús.

The Wattús, who occupy both banks of the Sutlej for about 60 miles, and the tract about Gugerá, claim descent from Rája Salvahan of Siálkot. One of his sons settled in Bhatner. Adham, the 12th in descent, came to the Sutlej near Ferozepore. There he found the Rajáda Kharrals, the Dogars, and the Joyás. They picked a quarrel with him, but he beat them. On account of venting his displeasure on them he was called Wattu, *wat* meaning displeasure. The next great men was Khewa, who was converted by Bába Faríd. He expelled the Kharrals, Joyás, and Dogars. After him there was no famous chief till Lakha appeared. His achievements have been recorded. It does not appear when the Wattús of the Rávi settled there; but they came from the Sutlej, and were hospitably received by the Kharrals. There is very little to choose between the two tribes on the Rávi. There the Wattús rose in 1857, and are still addicted to cattle-thieving. The Sutlej Wattús, however, behaved generally well during the rebellion. The tract owned by them possesses little jungle; that part of the clan therefore has taken of late years to agricultural pursuits. Some of their estates are well cultivated; their herds have diminished, and many of them cannot now be distinguished in appearance from peaceful Aráins or Khokhars. The change in their habits is remarkable, as they still speak of the *kárdárs* they used to kill during the Sikh rule, and of the years in which they paid no revenue because the Sikhs were unable or afraid to collect it. The Wattús pride themselves on their politeness and hospitality. They are of only moderate industry,

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profuse in expenditure on special occasions, indifferent to education, and exceedingly fond of cattle.

The Káthias.

The Káthias have been identified with the *Kathaioi* of Alexander's time. The subject is discussed at length at pages 33 to 37, Vol. II of the Archæological Survey Reports. It is probable that the name, as used by the Greeks, had a wider application than to one clan only. Whether the Káthias at that time enjoyed a supremacy over the Great Rávi tribes, and their name on this account was applied by the Greeks to the race collectively, or whether the mistake arose from the fact that Sángala, the capital town of the Kathæans, was brought most prominently into notice by its stubborn resistance of the Macedonian army, it is impossible to decide with any confidence. The coincidences, however, which point to the identity of the race of two thousand years ago with that of the present day, are too strong to be accidental. According to their own account the Káthias are descended from Rája Karan, Súrajbansi. Originally they resided in Bikáner, whence they emigrated and founded the state of Káthiáwár. From there they went to Sirsa, and then to Baháwalpur. Next they crossed over to Kabúla and went on to Dera Dínpanah. Here they quarrelled with the Biloches and had to leave. They then settled at Mirah Siál in Jhang. They stole the cattle of Aláwal Khán of Kamália, who was killed pursuing them. Saádat Yár Khán obtained the release of their leaders (who were imprisoned on account of this affair), on condition of their settling on the Rávi. Thus the Káthias obtained a footing in this district. They always held by the Kamália Kharrals, but plundered the others whenever they could get a chance. The character given to the Kharrals applies equally to them. "They are a handsome and "sturdy race. Their chief and favourite article of food is butter milk; "the consumption of wheat among them is very inconsiderable." They, of course, took part in the rebellion of 1857. Their leaders were Jalla and Muhammad Khán. The Káthias are Panwár Rájpúts. There are two main divisions, the Káthias proper and the Baghelas, the latter of which are confined to the neighbourhood of Kamália.

The Baghelas.

The Siáls, Fattiánas, and Tahránas.

The Siáls of this district are divided into two principal branches—the Fattiánas and the Tahránas. They were Panwár Rájpúts of Dháránagar. Rái Siál or Siu, from whom the name of the clan comes (Siál-Srúwál), was the son of Rái Shankar who settled in Jámpur. Quarrels arose at Jámpur, and Siál left for the Punjab in Ala-ud-dín Ghori's reign. About 1258 he was converted to Muhammadism by Bába Faríd of Pák Pattan. He settled at Sahíwál and married the daughter of the chief of that place. The Siáls increased, and ultimately ousted the Nauls from the lowland of the Chenáb, and founded Jhang Siál. They afterwards became very powerful, and, as we have seen, over-ran and held Kamália and the neighbouring country, under Walidád Khán. It was about this time that the Siáls settled on the Rávi. They took part in the outbreak in 1857 under Baháwal, Fattiána, and Jhalla and Murád, Tahránas. Jhalla was killed in action, and the others transported. They are large in stature, of a rough disposition, fond of cattle, and care little for agriculture. They observe Hindu ceremonies like the Kharrals and

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Káthias, and do not keep their women in *parda.* They object to clothes of a brown *(úda)* colour, and the use of brass vessels.

The Wahniwáls.

Very little is known about the origin of the Wahniwáls. They appear to have come from the Hissár direction. They call themselves Bhatti Rájpúts. In number they are weak; but in audacity and love of robbery they yield to none of the tribes. They were chiefly concerned in the pillage of Kamália in 1857, as well as in the nearly total destruction of that city in 1808. In appearance and habits they do not differ from other Jat tribes. Their leaders in 1857 were Sarang, Nathu and Mokha. The adventures of the last, till his surrender some few years ago, are well known. The name is said to have its origin in the fact of one of their ancestors having been born in a depression in the ground (Wahán). They with the Baghelas hold the country immediately round Kamália, on the right bank of the Rávi.

The Biloches.

The Biloches of this district are found chiefly in the Montgomery *tahsíl.* But there are not a few in Gugerá and Pák Pattan. They claim to be descended from the family of the prophet. Their ancestor emigrated from Mecca to Baghdád, and thence, owing to the persecutions of the Abbasides, to Kech Mekran. They appear to have come to this country during the Langa monarchy of Multán, or a little earlier, about the first quarter of the 15th century. One Khán Kamál of this tribe held a large tract of country between the Rávi and the central ridge from Shergarh to Waliwála. The *Theh* of his capital exists near Núr Sháh. This seems to have been about the beginning of the 16th century. The Montgomery Biloches belong chiefly to the sub-divisions Hot and Rind. Those of Gugerá are mostly Lisharis; and those of Pák Pattan, Rinds and Lisharis. The Rávi Biloches are not much better than the surrounding clans. They joined in the rebellion of 1857; and as they owned some large villages on the Multán and Lahore road, they gave a good deal of trouble. They pay little attention to agriculture, and occupy themselves mostly with breeding camels and letting them out for hire. Though always Muhammadans, they practise some Hindu ceremonies; but attach more importance to learning the *Korán* than their neighbours do. One of their principal clans, the Murdána, possess much land on the main road from Multán to Lahore, between Gugerá and Harappá.

The Joyás.

The Joyás are the last of the essentially robber tribes. They are an extensive tribe on the lower Sutlej, occupying both banks of the river from nearly opposite Pák Pattan to Kahror in the Multán district. Two of their principal clans, the Admeras and Saleras, are almost confined to Baháwalpur territory. According to their accounts they are descended from Benjamin, the son of Jacob. One of his descendents settled as a *fakír* in Bikáner, where he married the Rája's daughter. Their son was Joya. Before his birth his father abandoned his family and wandered into the world as a religious mendicant. Consequently Joya had to endure many gibes about his having no known father. The word *joi* means a "wife," and it would seem as if the tribe got the name on account of no one knowing who their

The Joyás are discussed by General Cunningham at pages 244 to 248 of his Ancient Geography of India, and at pages 139 to 145, Vol. XIV of his Archæological Survey Report.

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The Joyás.

male ancestor was. They appear to have been Rájpúts residing in Bikáner, who left that country about the middle of the 14th century and settled in Baháwalpur, and became allies of the Langa dynasty of Multán. They subsequently took to quarrelling with each other, and one party called in the Dáúdpotrás to help it. The usual result followed. The Dáúdpotrás took the country from the Joyás, who then came across the river in considerable numbers. This was about the time of Nádir Sháh, or early in last century. In 1857 they revolted, as mentioned at page 39. They were fined heavily, and have not recovered from the effects of their punishment yet. The river, too, has lately been sweeping away and otherwise injuring their villages. The principal *muhins* are the Akhoke and Lakhwera. The Admeras and Saleras do not possess any village in this district, though some Saleras do reside here. They are notorious thieves. They care little for agriculture, and occupy themselves with cattle-breeding. The islands in the Sutlej afford excellent pasturage for their buffaloes. They are prodigal in expenditure. "They are of smaller stature than the "great tribes of the Rávi, and are considered inferior in regard to the "qualities on which the latter especially pride themselves, namely, "bravery and skill in cattle-stealing."* The Mahárs are almost exclusively found along the Sutlej, just opposite Fázilka. They claim relationship with the Joyás, as Mahár, their ancestor, was the brother of Joyás, and like them they came from Baháwalpur too. They own 13 villages, generally in poor condition. The Mahárs are said to be quarrelsome, silly, thievish, fond of cattle, and to care little for agricultural pursuits. Contrary to the usual Jat customs, they generally inherit *per stirpes, chúndáwand,* and not *per capita, pagwand.*

The Mahárs.

Agricultural tribes—The Máns.

The tribes already noticed are all more or less addicted to cattle-stealing. The following—Máns, Khichi, Awán, Sagla, Arar, Háns, Rath, and Dhudhi—are fair cultivators and respectable members of society. The Máns are found chiefly along the Deg stream. Some are Sikhs, some Hindus, and some Muhammadans; the last predominate in this district. They claim to be Rájpúts, and to be descendants of Máns, the grandson of Salvahan, Rája of Siálkot. As their story involves a war between Salvahan (A. D. 90) and the Muhammadans of Mecca, it cannot be accepted with confidence. Most of the rice grown in the Gugerá *tahsíl* is raised by them. The Khichís are another tribe met with almost exclusively in the northern part of the Gugerá *tahsíl.* They claim to have been Rájpúts residing near Dehli, who emigrated to Multán, where they were converted by Baháwal Hakk. They wandered up the Rávi and gave up agriculture for cattle-breeding, and were hand-in-glove with the Kharrals in all their robberies. In Kamr Singh's time they resumed their agricultural habits, and are now an industrious and persevering set of men. A third Gugerá tribe is that of the Awáns. They are also found in the upper part

The Khichís.

The Awáns.

* Mr. Purser quotes this sentence from Lieutenant Elphinstone's report, and notes on it thus :—"I doubt the great superiority of the Rávi men over those of the Sutlej. We know the latter conquered the former (as the history of the Háns and Bahrwál Nakkaís shows); but we never hear of the tables being turned. The mistake of supposing the Joyás extinct, made by Tod (Ed. II, II, p. 164) and repeated in the History of the Punjab Chiefs, p. 602, has been pointed out by Cunningham—History of the Sikhs, p. 7."

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The Awáns.

of the *tahsíl* between the Rávi and the Deg. They claim descent from Ali, the son-in-law of Muhammad, and say they are called Awán because they were helpers (*áwán*) of Husain in his struggle with Yazíd. The tribe is an interesting one, and has been the subject of much disquisition (*Punjab Chiefs*, page 570, and *Races of N. W. P.*, Ed. 1869, Vol. 1, page 113). The Awáns in this district were patronized by the Kharrals, and they helped their patrons in robbing as far as they could. They are now quiet and tolerably industrious cultivators.

The Saglas.

The Saglas are a Muhammadan tribe in the Montgomery *tahsíl*. Their villages are situated on the right bank of the Rávi near Idalwála. They were originally Rájpúts, and are descended from the Rája of Dháránagar. It does not appear when they became Muhammadans. They say they came into this part of the country in Akbar's time, but their principal villages were founded during the rule of Muhammad Sháh and Kamr Singh.

The Arars.

The Arars are settled on the Lahore border along the upper course of the Khánwáh canal. They are fairly industrious and tolerably good cultivators. They say they are Moghals, and originally came from Arabia (?) About 500 years ago their ancestor left Dehli, where he was in service, for some reason unexplained, and settled in the tract where the tribe is now found. Having contracted matrimonial alliances with the Jats, his descendants were also considered Jats. Some villages of Hindu Jats are situated near those of the Arars.

The Hindu Jats.

The Hindu Jats are also fair cultivators, and in this respect superior to the ordinary run of Muhammadan Jats. They are mostly Sikhs by religion and of the Sidhu clan.

The Raths and Dhudhís.

In the Pák Pattan *tahsíl* the Raths and their kinsmen, the Dhudhís, are considered fair agriculturists. They are met with about 16 miles to the south-west of the town of Pák Pattan. They claim to be Panwár Rájpúts. Their ancestors settled in the Mailsi *iláka* of Multán, where they became Muhammadans. One of the tribe, Háji Sher Muhammad, was a very holy man. His shrine still exists in the village Chaoli Mashaikh in Multán. They are mentioned in historical records as early as the first-half of the 14th century. When the Dehli empire was breaking up, some of them left Multán and settled about Kabúla, and subsequently founded the villages they now occupy. They are reported to be addicted even now to robbery.

The Háns.

The Háns tribe has been noticed in Chapter II. They are one of the clans who do not assert a Rájpút origin, but say they are Kureshís, who came from Arabia, settled in Afghánistán, and afterwards came to this country and fixed their residence where Pakka Sidhár now stands. At present the Háns do not own one entire village, and have preserved none of their former influence.

Three industrious tribes.

There are three hard-working tribes in this district—the Mahtams, Aráíns, and Kambohs. The last two are first-rate cultivators; and if there is anything to choose between them, the Kambohs are the best.

The Mahtams.

Mahtams are chiefly found in Dipálpur, on the Lahore border, and about the junction of the Dipálpur and Pák Pattan *tahsíls*. They are a low Hindu caste, and are looked down on by their neighbours. Their story is that they were Rájpúts; and one of their ancestors was a *kánúngo*. Akbar was then on the throne. *Kánúngos* were called *mahta*, and thus they

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The Mahtams.

got their name. The first *mahta* was dismissed, and then settled at Mahtpur in Jullundur. His descendants emigrated and settled along the banks of the rivers as they found quantities of *sarr* in such situations, and working in *sarr* was their chief occupation. It was not till the Nakkaí chiefs held sway that they settled down permanently in this district. They adopted the custom of marriage with widows according to the form of *chaddar dàlna*, and so became Sudrás. They are also called *Bahropias*, which name is a corruption of *Bho-rup-ias*, and means people of many modes of life, because they turned their hands to any business they could find (yet cf. *Races of N. W. P.*, Vol. I, pages 17 and 54). Cunningham (*History of the Sikhs*, page 17), says "the hard-working Hindu Mahtams are still moving "family by family and village by village eastward away from the Rávi "and Chenáb." This would seem to give the Mahtams a western instead of eastern origin as claimed by them. They own a good many villages (19), most of which are in good condition. When they are not proprietors of the whole village, they reside in a separate group of huts at some distance from the main *ábádi*. They are great hands at catching wild pigs; but it is in cutting down the jungle on inundated land that they excel. Though industrious, they do not care much for working wells, and prefer cultivating lands flooded by the rivers. They are quarrelsome and addicted to petty thieving. They are of medium stature and stoutly made.

The Aráíns.

The Aráíns know nothing about their origin. They claim to be Súrajbansi Rájpúts, and to have come up to this district from the Dehli part of the country. They are usually supposed to be simply Muhammadan Kambohs, and the latter undoubtedly came from the west; so it is likely the Aráíns did too. This is rendered more probable by the fact that the Aráíns (Ráíns) of Sahåranpur are said to have come from Afghánistán about 1650 A.D. (Select Glossary, Vol. I, p. 294). Their villages are situated exclusively in the Dipálpur and Gugerá *tahsíls*. They do not appear to have got much below the Lahore border. Their chief sub-divisions are—Gahlan, Chandúr, Chachar, Sindhi, and Barar.

The Kambohs.

The Kambohs claim to be descended from Rája Karan. But one of the ancestors had to fly to Kashmír, and married the daughter of a gardener to save his life. The Rája reproached him with contracting such a low alliance, and said: *Tumko kuchh bú Khándáni ki nahín hai; tum kam bú wála ho,*" meaning, there was no trace of high family in him: hence the name. There are other derivations (Select Glossary, Vol. I, p. 294). It is evident the Kambohs came from across the Indus. They are found on the Sutlej side of the centre-ridge, in the Dipálpur and Pák Pattan *tahsíls*. There are no Kambohs on the Rávi. Those in this district divide themselves into two main branches, according to the country from which they came. These are the Lammawála Kambohs and the Tappawála Kambohs; *lamma* means west, and is said to be the country about Multán; *tappa*, they say, is the region between the Biás and the Sutlej. The majority of the Kambohs settled in the district during Sikh rule. They are almost without exception Hindús; but people do talk of Muhammadan Kambohs. As tenants the Kambohs are greatly sought after, as they are most industrious and skilful cultivators. They are, as a rule, well off. Their women are said to do a good deal of business in the money-lending line.

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Tribes, Castes and Leading Families.

They own 54 villages in this district, besides those in which they have shares.*

The holy clans. The Khaggas.

There are several Muhammadan clans claiming peculiar sanctity in this district. The principal are the Khaggás in Montgomery; the Chishtís in Pák Pattan; and the Saiyads in Dipálpur. To these may be added the Bodlás and Tahirs. The Khaggás came to the district after the conquest of Multán by Ranjít Singh. They claim to be Kureshís; and name as the first Khagga Jalál-ud-dín, disciple of Muhammad Irak. *Khagga* is said to mean a peculiar kind of fish; and the name was given to the Jalál-ud-dín by his spiritual teacher on the occasion of his rescuing a boat overtaken by a storm. The Chishtís belong to the family of Bába Faríd Shakarganj, and have settled in the district more than 600 years. They came from Kábul to Lahore, and afterwards settled in the Multán district. Bába Faríd took up his residence here. The name is said to be derived from *Chist*, a ward in Damascus, where one of their ancestors lived. The Saiyads are met with chiefly about the shrines of Dáúd Bandagi, Mirán Lál, Baháwal Sher and Sháh Mukim. They settled in this country early in the 16th century. Some of the Saiyad families, however, did not come till the Sikh time. The Pák Pattan Saiyads are located mostly in the old Háns country, about Pakka Sidhár; and settled there during the Háns' supremacy. The Bodlas seem to have come from Multán through Baháwalpur. They are found between Dipálpur and Pák Pattan, and came during the Sikh times. The tribe is supposed to have miraculous powers as regards the cure of bites by mad dogs. These semi-saintly tribes are lazy, silly, and self-conceited. *Odási fakírs* own several fine villages in the west of the Dipálpur *tahsíl*. Among them is Bhuman Sháh at which there is a shrine of the saint of that name. The *bhái* of Bhuman Sháh contrasts favourably with some of his Muhammadan compeers. There is a *langar*, or place at which food is distributed gratuitouly, at Bhuman Sháh. This is supported partly by the proceeds of the *jágír* enjoyed by the incumbent of the shrine, and partly by the contributions of the Kambohs, who look upon Bhuman Sháh as their patron saint. He is said to have lived from 1687 to 1756.

The Chishtís. The Saiyads. The Bodlas. *Odasi fakirs*—Bhuman Shah.

The trading tribes. The Khatrís.

The two great trading and money-lending tribes, the Khatrís and and Aroras, deserve a passing notice. The latter are generally spoken of by the people as *Karárs*. It has already been pointed out that the Khatrís predominate in the Gugerá and Dipálpur *tahsíls*, and the Aroras in the Montgomery and Pák Pattan; also that Dipálpur is the capital city of the Khatrís in the Punjab. The Khatrís claim to be the second of the four great Hindu castes. There is no record of when they settled here, but it is only since the time of the Nakkaí Sikhs that they have become of much importance. They are divided into three main classes—(1) the Charjátís, consisting of the Seths, Mahrotras, Khannás, and Kapúrs; (2) the Barájatís or the twelve clans; and (3) the Báwanjatís, or the 52 clans. Among the last are the Sodhís and Bedís, celebrated among the Sikhs, as Gurus Rám Dás and Govind belonged to the Sodhi family, and Guru Nának to that

* According to Blochmann (*Ain-i-Akbari*, I. p. 399), it was a distinction to belong to this tribe in the reigns of Akbar and Jahángír. The Kambohs, he mentions, were Muhammadans.

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The Aroras.

of the Bedís. Some of the Khatrís are Sikhs, but most continue Hindús. They are active and enterprising, often well-to-do, and have a very good opinion of themselves. They do not confine themselves to agriculture or trade, but take service too readily. The Aroras have more than one legend explaining the origin of the name Arora. They claim to have been once on a time Khatrís. Any way, they were settled about Uch and Shikárpur. When the Nakkaí *sardárs* were establishing some sort of order in this country and refounding the deserted villages, many Aroras came and settled here. At the Census of 1881 Aroras returned their clans as follows:—Uttarádhi, 3,108; Dakhana, 13,101; Dahra, 16,283. Like the Khatrís, some are Sikhs, some are Hindús. They are active and enterprising. They are the money-lenders of the district; and have more taste for shop-keeping and trading than for agriculture; but they are far from objecting to lay their clutches on a lightly-assessed village; almost all the *dharwaís* (village weighmen) are Aroras. As a rule, neither the Khatrís nor Aroras cultivate their lands with their own hands. They employ tenants to do this.

Other tribes.

Other tribes of the district are the following:—Moghal, Afghán, Bhatti, Khokhar, Langah, Dogar, Jamu, Hindal, Phularwan, Nonari, Paracha, Harl, Wirk, Naul, Baori, Kalerá, Dahir, Seho, Kes, Mohil, and Chhatta. These are Muhammadan tribes; most of them are Jats; and some are more sub-divisions of more important clans. The menial classes, such as Mochís, Hajáms, &c., belong to a different category. The Surais are both Hindús and Muhammadans. Other Hindu tribes are the Sandrana, Gopirai, Bopirai, Aulak, Hinjra, Brahmin, and Rathor.

Intermarriage among tribes.

Among the Muhammadans, Chishtís, Khaggás, Kharrals, Káthias, Wattús and Patháns ordinarily marry their daughters in their respective tribes only, but they will all give their daughter in marriage to a Saiyad. A Saiyad will not marry his daughter to other but a Saiyad. Though none of the above will marry their own females to lower caste Muhammadans, such as Paolís or Telís, they have no objection to take a bride from among the daughters of these people. Hindús in this district observe the same custom as elsewhere save that they marry at a later age.

Leading families.

A large portion of this district was formerly held in *jágír* by various servants and favourites of the Sikh Government. Some of these were resumed at annexation; others lapsed by the death of the holders, so that, in 1854, the proportion between *jágír* and *khálsa* estates had fallen from 60 per cent. to 12 per cent. The largest estates of this class are held by Bedís, Bába Khem Singh, who is looked upon as the lineal descendant and representative of Bába Nának, and therefore held in much veneration by a large class of Sikhs. He also possesses *jágírs* in the Jullundhur district, and, is a man of considerable influence and resources. His villages are situated near Basírpur in the Dipálpur *tahsíl*. The value of these estates has much increased since the opening of the upper Soház canal, and especially since the *jágírdárs* have been made a present of half the water revenue that will be collected from the canal irrigated land of their villages. With these exceptions there are no considerable estates of this class, and the holders are men of no importance or influence.

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Talùkdàris.

There is only one *talùkdàri* of any importance in this district. Muhammad Amir Ali Khán Kharral, of Kamália, the representative of a family who at one period appears to have exercised a kind of feudal authority on the lower Rávi. In recognition of services performed to the Sikh Government, they were allowed to retain a right to collect one-eighth of the gross produce of *talùka* Kamália; the administration, however, being vested in *kàrdàrs*, to whom they were obliged to render every assistance their influential position enabled them to give. This right to one-eighth of the produce, here called *athokh*, was reduced by Díwán Sáwan Mal to one-twentieth; a *nazaràna*, however, of Rs. 1,600, and the obligation of repairing the wood-work of wells formerly incumbent on them, being remitted at the same time. The *talka* consists of 41 estates, from the sub-proprietors of which the *talùkdàr* receives two *pàìs* in the *kharwàr*, or one-twentieth of the grain produced; and four annas per *kanàl* on *zabti* crops. Attempts were made in 1854 to convert the demand into a rate in cash on the Government *jama*, but the objections of both the *talùkdàr* and the *zamìndàrs* to this system were so decided that it had to be relinquished. In all other cases where there were two classes of proprietors, the Settlement was made with the sub-proprietors.

SECTION D.—VILLAGE COMMUNITIES AND TENURES.

Village tenures.

Table No. XV shows the number of villages held in the various forms of tenure, as returned in quinquennial Table No. XXXIII of the Administration Report for 1878-79. But the accuracy of the figures is more than doubtful. It is in many cases simply impossible to class a village satisfactorily under any of the ordinarily recognised tenures; the primary division of rights between the main sub-divisions of the village following one form, while the interior distribution among the several proprietors of each of these sub-divisions follow another form which itself often varies from one sub-division to another. Mr. Elphinstone wrote as follows in 1856 regarding the village tenures of the district :—

"That people accustomed to a semi-independent nomadic life should accommodate themselves to all the intricacies of tenure which prevail among more civilized communities in India, could hardly be expected; my observations on this head will therefore be brief. The *zamìndàri* tenure, which involves obedience to the elders of a village, observance of local customs, and a generally pacific disposition, is by no means in favour with the Jat tribes, except in its most simple form, that of a village belonging to a single proprietor. It prevails, however, among the Aráíns on the Khánwáh canal, the Kambohs and Khatrís of Pák Pattan and Gugerá, and to some extent among the small tribes, who have been before explained as being included among the Wasíwáns. In form it does not appear to differ from the *zamìndàri* tenures of the North-Western Provinces. It includes all estates belonging to a single proprietor, as well as those where possession of land has not been separately defined among the different shareholders, and the Government revenue is paid by an allotment on shares according to the custom of the village. I may remark that the term *biswa*, denoting the amount of each proprietor's share in the produce of the estate, and his liability with regard to the Government *jama*, was unknown before our rule. It was introduced by the Hindustáni

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officials, but the people themselves now fully understand it, and have adopted it. Their own mode of explaining the amount of a proprietor's share was more simple. They merely designated him as a shareholder of one-third of the whole, or one-fifth, as the case might be. "The *bhayáchára* form of tenure is very common, and in great favour with the Jats. Each member of the brotherhood is in separate possession of his part of the estate. He only pays that portion of the revenue assessed on the land in his possession, and enjoys the whole surplus profits accruing from his property. The joint responsibility of members of a village community, so prevalent in some parts of India, and now also introduced in this part of the Punjab, appears to have had no existence under the Sikh rule—at least as regards this district. The Government took its prescribed share of the actual produce; proprietors, therefore, who had allowed their lands to fall out of cultivation, did not contribute towards the revenue of the estate. The existence of separate village communities, composed of members connected with each other by ties of race or blood, appears not to have been owing to any interest the Government felt in the matter, but solely to the habits of the people themselves. So long as the marketable value of the land shall remain low, and the monied classes find no advantage in investing their capital in land, there is very little fear of the *bhayáchára* communities in this district being broken up by any but natural causes, such as the deterioration of the soil, or the destruction of the estate by inroads of the river. The rule of pre-emption enforced by our Government will also, of course, have a most important effect in preventing strangers from entering village communities. Cases in which question of pre-emption were involved could only have been of very rare occurrence under the Sikh rule, as the distinctions between the several classes of the community were then more marked, and the Hindu, for instance, would hardly have ventured to buy land in a village belonging to half-civilized Jats. I ve therefore not been able to trace any precedent of similar rules ha g obtained at that period. In some towns, however, it has been at least customary for the *kárdárs* and authorities not to sanction the sale of houses to strangers without the concurrence of the villagers. *Pattidári* estates are not numerous: their origin may be traced almost in every instance to the founders of a village having been of different castes or tribes, and their descendants thus not having been able to amalgamate into a single community. Since annexation a few sales of land have also tended to introduce this tenure into some estates. I may observe, however, that perfect *pattidári* villages are not known. The *banjar*, and often a portion of the inundated land, is held in common throughout the district, whether the tenure of the cultivated portion be *bhayáchára* or *pattidári*."

Statistics of village tenures.

According to the Settlement Report of 1874 the villages of the district were distributed in the different *parganáhs* as regards their form of tenure according to the accompanying statement:—

Name of *tahsil*.	*Zamindari.*	*Pattidari.*	*Bhayachara.*	Total.
Gugera ..	295	151	108	554
Montgomery ..	320	44	128	492
Dipalpur ..	455	140	15	610
Pak Pattan ..	411	35	66	512
Total ..	1,481	370	317	2,168

Many of the *zamíndári* villages consist of grants of waste land made to single individuals; while many of the *pattídári* villages are mere groups of wells in which those wells represent the shares.

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Riverain law.

On the Rávi there can be no question of jurisdiction, as the territory on both sides of the river is British. As regards proprietorship, the rule usually prevailing on the upper Rávi is that known as *wár-pár*. The Settlement papers show the boundaries of each village. Land thrown up belongs to the village within whose boundaries it is thrown up, no matter whether it can be identified or not. If a whole village is swept away, the proprietors have no claim on other villages. But if afterwards land is thrown up within the space formerly included within their boundaries, they are entitled to it. Disputed boundaries are to be settled according to the Settlement maps. On the lower Rávi, and universally on the Sutlej, the rule of *kishtibanna* is followed. By this rule the deep streams forms the boundary of opposite villages. The deep stream is determined by the course taken by boats when the river has gone down; hence the name of the rule. This rule is also known as the *hadd sikandari* and *kachh-machh* rule. According to it land transferred from one side of the river to the other by avulsion, so that it can be recognized, belongs to the original proprietors; but land thrown up which cannot be identified, belongs to the village adjoining which it is thrown up. Under this rule, if a whole village is swept away the proprietors lose their land for ever; because, even if land is again thrown up where their village was situated, it will belong to the villages adjoining which it is thrown up. Jurisdiction was formerly decided by the deep stream. All land on one side belonged to Baháwalpur, Sirsa or Mamdot; all on the other, to Montgomery. The orders of the Secretary of State, contained in despatch No. 3, dated 6th January 1861, directed that each case should be considered on its merits, when villages are transferred by avulsion from one jurisdiction to the other. The changes that occur are considerable. In 1860 four villages were transferred to Baháwalpur; next year, five more went. In 1866 six more villages were transferred to the left side of the stream; and in 1870, two more. In that year and the following, however, ten villages were recovered. It is very common on the Sutlej for villages to own land on both banks; and so the change is not as violent as might seem at first sight. The people, too, are accustomed to the rule.

Proprietary tenures.

Table No. XV shows the number of proprietors or shareholders and the gross area held in property under each of the main forms of tenure, and also gives details for large estates and for Government grants and similar tenures. The figures are taken from the quinquennial table prepared for the Administration Report of 1878-79. Here again the accuracy of the figures is exceedingly doubtful; indeed, land tenures assume so many and such complex forms in the Punjab that it is impossible to classify them successfully under a few general headings.

Tenants and rent.

Table No. XVI shows the number of tenancy holdings and the gross area held under each of the main forms of tenancy as they stood in 1878-79; while Table No. XXI gives the current rent-rates of various kinds of land as returned in 1881-82. But the accuracy of both sets of figures is probably doubtful; indeed, it is impossible to state general rent-rates which shall even approximately represent the letting value of land throughout a whole district. Below some statistics are given concerning the tenant population of the district,

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Tenants and rent.

the areas they occupied, and their status and rents as they stood at the Settlement of 1874. It will be noticed that while there is one tenant paying rent in cash for every seven tenants paying rent in kind, the area held by the former class is only about one-fourteenth of that occupied by the second. The large number of tenants paying no rent or *màlikàna* in Dipálpur and Pák Pattan are the occupants of *chhàrs*. Uncultivated land occupied by tenants is included in the statement :—

Tahsil.	Total number of tenants and area.		Hereditary tenants.		Non-hereditary tenants.		Tenants paying rent in cash.		Tenants paying rent in kind.		Tenants paying *màlikàna*.		Tenants not paying *màlikàna*.	
	Number.	Area occupied by tenants.	Number.	Area occupied by them.	Number.	Area occupied by them.	Number.	Area occupied by them.	Number.	Area occupied by them.	Number.	Area occupied by them.	Number.	Area occupied by them.
		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.
Gugerá ...	5,350	36,230	1,533	8,637	3,817	27,593	1,104	6,297	4,246	29,933	4,767	33,499	583	2,731
Montgomery	8,430	45,352	2,825	14,595	5,605	30,757	1,933	9,242	6,497	36,110	7,692	40,980*	738	4,732*
Dipálpur ...	16,260	133,965	9,135	23,126	7,125	110,839	199	2,509	8,588	129,484	8,736	131,263	7,524	2,702
Pák Pattan	3,892	53,833	534	1,606	3,358	52,227	3	15	3,523	53,630	3,328	49,575	564	4,258
Total ...	33,932	269,380	14,027	47,964	19,905	221,416	3,239	18,063	22,854	249,157	24,523	255,317*	9,409	14,063*

* There is some doubt concerning 40 acres here

7,473 tenants occupying 1,972 acres pay no rent or *màlikàna* in Dipálpur. 366 tenants occupying 188 acres are similarly situated in Pák Pattan.

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Proportion between landlords and tenants.

The proportion between proprietors and tenants depends in no small measure on the amount of capital which has to be sunk before agricultural operations will yield a return. In a country where with a yoke of bullocks and a few rupees worth of seed grain, a man may cultivate 20 acres, we may naturally expect to find most of the land held by peasant proprietors, who cultivate themselves. But where, in order to cultivate the same area with return-yielding crops, Rs. 600 or 700 have to be laid out in the purchase of the means of agriculture, the mass of the cultivating population will be tenants. This rule will be found to apply to most thinly peopled tracts. Mr. Purser estimates the cost of starting a well yoked with six pairs of bullocks and irrigating 25 acres, at Rs. 640-14. He gives full details at pages 138-39 of his report. Add cost of seed grain, expenses of four men with a proportionate number of women and children for five months from seed-time till harvest, cost of feeding bullocks during the same period, and the sum is an amount which very few non-proprietors could raise. Under the present revenue system the middle-man is almost a necessity in Montgomery.

Tenants. Rights of occupancy.

While stating that the distinction between hereditary and non-hereditary tenants was unknown under native rule in this part of the Punjab, Lieutenant Elphinstone says :—

"It is remarkable, therefore, that the cultivators should in some portions of the district, notwithstanding their uncertain tenure, have had the right to sell the *kásht* or cultivation of land ; instances of such a right being acknowledged frequently came under the cognizance of the Settlement courts. This claim to sell the right of cultivation was always founded on the fact of the claimant having been the first plougher of the soil. It was therefore of importance when determining the position cultivators were to occupy, to ascertain to whom the claim of *butáh már* or first ploughing of the land belonged. In accordance with instructions issued on this subject by superior authority, all cultivators who could make out their claim to the *butáh már* were recognized as hereditary cultivators—a privilege also conferred on those who had cultivated for eight years, if residents in the village, and twelve years, if non-residents. The privilege, however, owing to the abundance of land, was by no means sought after at the Settlement of 1856 ; facility of removal, on the contrary, being the chief object aimed at. An idea was prevalent that by becoming *maurúsi* (hereditary) they would eventually become responsible for the land revenue to Government. Thus, a spectacle, unusual in the Punjab, was often seen at the time of Settlement, of cultivators strenuously refusing to be recorded as hereditary, to the despair of the proprietor, who in the desire of the cultivator to be recorded as non-hereditary, recognised a sure indication of his readiness to leave the village, whenever superior temptations should be held out by his neighbours."

Butáh már.

It must always be remembered that under native rule no such thing as absolute proprietary right was recognized. The missing class was not the hereditary tenant, but the proprietor. When the British Government made a present of the land to certain individuals, all the hereditary cultivators did not share in this boon, yet they undoubtedly had rights of occupancy which the Sikhs would have respected, and it is for this reason that we find Lieutenant Elphinstone giving *butáh már* as a ground for superior tenant right, while Major Marsden says :—" The principal title to proprietary right

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Butáh mär.

"in this district seems to be clearing the jungle and bringing the land "under cultivation. It generally extends to each member of a fraternity or association engaged in this orignal task, and does not reach "beyond the land actually cultivated." Thus *bùtah màr* here conferred proprietary right, and proprietary right was simply the right to hold the land as long as you cultivated it, or arranged for its cultivation. No doubt you might dispose of it with the approval of the *kàrdàr*, as Lieutenant Elphinstone's *bùtah màr* tenants could do. In the Atari *ilàka* it was a regular custom for hereditary tenants to sublet their lands. The system of raising non-hereditary cultivators to the position of hereditary tenants after they had cultivated the same land for a certain number of years, was continued after completion of the Settlement of 1856, till it attracted notice and was stopped. In his report on the subject, the Deputy Commissioner stated that no cases had been known of proprietors seeking to oust their tenants, but that they had occasionally tried to make them stay by an appeal to the law courts.

Migratory character of tenant population.

From the earliest days of our rule, the migratory character of the tenant population of this district has been a subject of anxiety to the revenue officers. In 1853, Major Marsden, then Deputy Commissioner, wrote on the occasion of the failure of the Khánwáh canal:—"There is a "strong probability that extensive desertions of *asàmis* will take place, "and the villages proportionally suffer. It is unfortunate that the present "unusual *sailàb* on the Sutlej should occur in a year when the "Khánwáh has so signally failed, as it holds out inducements to cultivators to abandon their villages and reap a more profitable harvest "with less labour." And again, writing of villages with low *jamàs*, he says:—"The extent of *sailàba* land, which could be cultivated at "small expense, enables the *zamìndàrs* enjoying these easy *jamàs* to "offer such advantageous terms to cultivators as might induce them to "abandon their present holdings and thus embarrass the more laborious "and less favoured farmers." These lucky villages have since been ruined. In 1855 Mr. Vans Agnew recanted his opinion that it was the "laziness of the cultivators which caused them to abandon their villages and lands on the slightest pressure." In paras. 50 and 51 of his Settlement Report, Lieutenant Elphinstone speaks in no uncertain tone of the supremacy of the tenant. He describes the tenant as declining to be recorded hereditary, "facility of removal being the chief object aimed at;" and the despair of the proprietor at his tenant's insisting on being entered as non-hereditary. He points out the evils of the competition for tenants caused by the taste for cultivation that was springing up. "Several instances have come to my "knowledge where *zamindàrs* have been obliged to agree to receive "only one-eighth of the produce from their cultivators, in order to prevent "their leaving, although the usual rate had formerly never exceeded one-"third or one-fourth of the produce. Mr. Cust says of the cultivators:— "The least pressure, either of season or demand, would cause them to "abscond." In 1864, Mr. Ford, Commissioner of Multán, wrote:—"Cultivation has spread during the past year, but with our scanty population "* * * I think that we are giving with one hand and taking with "the other* * * We are now weakening our villages and forcing "them to become impoverished. Mr. Blyth mentions this fact very

"forcibly." The manner in which the grant of Government waste lands has encouraged this tendency will be noticed under the land revenue history of the district.

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Rent.

The greater portion of the cultivated land in this district is occupied by tenants who pay in kind by *wandái* or actual division of the crop. *Kankút* is not practised; and even *zabti* crops are divided. The share of produce paid by the tenant varies in different parts of the district. It is larger on the Rávi than on the Sutlej. In Montgomery it is as high as half in places; and in Dipálpur it falls as low as one-seventh. The usual rates seem to be half, two-fifths, and one-third, on *sailába* lands on the Rávi; and one-third, one-fourth, and one-fifth, on well irrigated lands. On the Sutlej the rates are one-third on canal *sailába* and *báráni* lands, and one-fourth on well-irrigated lands in *sailába* and canal villages. Purely well-villages pay one-fifth on well lands and one-third on any *báráni* cultivation they may have. But in a considerable number of villages on the upper Khánwáh, where tenants join in cleaning out the *chhárs*, the canal lands pay only one-fourth of the produce. It is usual for tenants to demand and obtain advances of *takávi* from proprietors desiring their services. The advance is recovered by taking an increased share of the produce. Thus in Pák Pattan, as a rule, when tenants in well-village pay one-fourth of the produce, they get advances; when they do not, they pay one-fifth. Custom seems to have a good deal to do with the rate of *wandái*. Wells close together, owned, practically speaking, by the same persons, and similar in every respect, may be seen, of which one pays one-fourth and another one-fifth share. No explanation of this anomaly is given, except that it is the custom for one well to pay so much, and for the other to pay so much.

Green fodder.

Besides his share of the ripe produce, the owner is entitled to a certain amount of green fodder each harvest. This varies from 10 *marlas* to one *kanál* each season, and is calculated to be worth Rs. 4 the *kanál* of wheat, and Rs. 2 the *kanál* of *jowár*. On the other hand, the tenant is allowed to grow fodder for his well-cattle, and pays no rent for land so occupied. The amount is fixed for each well. Three *ghomáos* in the spring and two in the autumn are a fair average on the Sutlej; but they are more stingy on the Rávi. The tenant is besides entitled to take all the *túri* and dry fodder he may grow. If he leaves the well before all this dry fodder has been used up, or if he sells it, he has to give the owner of the well the same share of it as he does of the grain.

Manner of dividing the crops.

The common way of dividing the crop is to separate off from the heap of cleaned grain as much as is considered sufficient to defray the charges for which both proprietor and tenant are responsible. They then divide the remainder according to the rate agreed on. They make up rateably any deficiency there may be found in the heap set apart for common expenses; and may divide rateably any excess that appears. Generally any such excess is small, and part is given to the sweeper, and the rest is distributed in charity.

Expenses and method of defraying them.—*Kamíns* fees.

What these expenses are, and how they are defrayed, whether from the common heap (*dheri shámilát*), or from the tenants' share, and whether their amount is calculated on the common heap, or the owner's share or the tenant's share, must be ascertained from the Settlement record of each village, as there is no fixed custom, though a general

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Expenses and method of defraying them.—*Kamins'* fees.

similarity in this matter is found everywhere. A full detail of these expenses in two typical villages is given at page 131 *et seq*, of Mr. Purser's Settlement Report. The cultivator has to pay the cost of reaping. Occasionally he has to pay the *malba*, *mochi* and barber, out of his share. Other charges are defrayed from the common heap. *Màlikàna* or *malba* is sometimes calculated on the owner's share. Other expenses are calculated on the common heap—*i. e.*, what the owner and tenant divide, exclusive of the heap set apart for expenses. In a few villages a charge is made on account of the road cess, school cess, and other extra cesses. When *kamìns* get a day's cotton-picking, the cultivator takes them with him at the end of the season, separately or together, and lets them pick as much as they can all day long. An ass-load of unthreshed corn is given to the *kumhàr* on account of water-pots supplied for domestic use. He is rarely paid for these. In some villages the *mochi* is paid according to the job, and is not kept as a *kamìn*. Some of these village servants get other fees than those mentioned. Thus the *miràsi* (*sepi*) gets a share of the *thàna-patti*, a charge made on the occasion of the marriage of the daughter of a non-proprietor, and paid by the conductor of the marriage procession. Again, when a plough is made, the carpenter gets one *topa* of grain for fixing the *hal* in the boot, and the blacksmith gets the same fee for putting on the staple into which the share fits. These fees are called *dhurài* and *kundài*. At seed time these two *kamìns* get one *topa* per plough on the river. So does the *kumhàr*, if he carries the seed-grain. Further inland these three get two *topas* from each independent cultivator; and the *nài* and *mochi* get half that amount. This fee is known as *biyài*, hence the saying :—

Kàtik biyài, Sàwan dhurài.

The *chùhra* generally gets the dead cattle, including the hides.

Expenses on the Rávi.

These are the Sutlej customs. On the Rávi all the expenses are paid from the common heap, and calculated on it. It does not appear usual for the owner to take any *khìra* or green fodder from his tenant. Except the *kamìns* no one gets any *zabti*. The *miràsi* (*sepi*) is reckoned one of the *kamìns*, but does not get any *zabti*. When the yield of cotton has fallen off much, the *kamìns* get one day's picking. First the *tarkhàn* and *kumhàr*, and after them the *lohàr* and *mochi*. The cow-herd gets the milk of his herd every fifth day. The ox-herd, here called *chheru*, gets for every third of a well four *topas* and one bundle each harvest. The bundle, generally called *bhari*, is said to be as much as can be tied up with the well-string called *warhi*. This is vague. A *bhari* is a bundle of straw with the grain unthreshed, and may weigh about one *man pakka*. The *mans* and fractions of them mentioned above are *topa mans* of 1 *ser* 14 *chittàks* each. On the Sutlej, as regards *bàràni* and *sailàba* lands, the equivalents for a well in calculating these expenses vary. Sometimes 100 *mans* of grain stand for a well, sometimes eight yokes of bullocks, and sometimes 12 acres of ripe crops.

Màlikàna.

Màlikàna, or the amount given to the proprietor by the tenant as a mark of proprietary right of the former, is generally one *topa* in the *man*, or one-sixteenth of the produce on the Rávi. On this account it is known as *topa man*. On the Sutlej it usually amounts to four *topas* in the *màni*, or one-forty-eighth of the produce; or two

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Dharat.

topa in the *man, calculated on the proprietor's share;* or it is sometimes one *paropi* in the *man* on the gross produce. Sometimes this *málikána* is given by the proprietors to the person who takes the farm of the *dharat.* This, however, rarely occurs. The *dharat* is a tax levied on sales in the village; it generally amounts to 3 pies, or one pice in the rupee *ad valorem,* and is paid by the buyer. It was a legacy of the Sikh rule. The *dharwái* takes the farm generally. It is sold annually by the proprietors to the highest bidder. The proceeds are used as *malba* for common village expenses, such as feeding destitute travellers, travelling expenses of *lambardárs* attending court, &c. But within the last few years its levy has been abolished everywhere except in Hujrá. At the Settlement of 1856 *málikána* was frequently recorded as *malba,* sometimes as *malba málikána.* In other words, the *malba* was the only *málikána* paid. *Malba* used to be levied as such, either by a money *báchh* or by a fixed charge on the produce. The latter was the more popular method. The accounts were kept by the *dharwái,* and were subject to annual scrutiny in the former case, and half-yearly examination in the latter. The *lambardárs* had full control in this matter.

Malba.

Tenants growing inferior crops.

There is no rule prescribing what crops a tenant is to grow. In some cases the owners of land have thought it worth while to record that, if tenants grow inferior crops, or let the crops dry up, they are to pay the same rent as the previous year. If the tenant provides the *jora* (horizontal and vertical cog-wheels) of a well, he pays nothing on account of the wood-work to the proprietor; but if the proprietor supplies them, he often charges rent for them. The usual charge is five-and-a-half Government *mans* per annum. Occasionally a tenant will repair a well. In this case he cannot be ejected till the proprietor repays him; and he is entitled to one-fifth of the proprietor's share of the produce.

Rent for wood-work of wells.

Repair of wells by tenants.

Agricultural labourers.

Day labourers (*mazdúrs*) are very rarely employed, except at harvest. In the canal villages they may be entertained to clean out the water-courses, but this work is generally done by contract. Labourers employed in weeding and hoeing get two annas a day, and in places two annas and six pies. When cleaning water-courses they get three annas a day. Two annas are the usual daily pay for other work; in the canal villages it is two-and-a-half annas. The wages paid for reaping are given below. These people are said to form a class of themselves, and to have no other means of sustenance. In 1879 their numbers were estimated at 3,500. Their condition is inferior to that of the poorer agriculturists. The wages of labour are shown in Table No. XXVII; but the figures refer to the labour market of towns rather than to that of villages.

Farm servants—*Kámas* and *ádhjogias.*

Farm servants, not daily labourers, but who are kept on for a period of time, are called *káma* or *ádhjogia.* The wages of the former vary in different localities; but he generally gets eight annas a month in cash and two pairs of shoes and a blanket in the year. In addition, he gets two meals a day; or 12 maunds of 36 seers each of grain, with two suits of clothes, consisting each of a turban and two sheets. The *ádhjogia* gets no pay, but he shares in the produce. When the crops have been cut and dressed, and the preliminary deductions (which have just been mentioned) have been made, the

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Farm servants—*kámas* and *àdhjogias*.

master and his man divide what remains. First the master deducts his *màlikàna*, the seed-grain, and the value of the *màhls* of the well used up during the season. The remainder is then divided, so that the *àdhjogia* gets half the share he would have got had he been the owner of the yoke of bullocks he minded. The master pays for the seed of *jowàr* eaten by the bullocks. Sometimes the *àdhjogia* gets an advance from his master, for which he pays no interest, and which is recovered as may be arranged. The *àdhjogia*, or half-yokeman, is the more commonly found farm-servant. For each yoke one man is usually considered necessary. But five men are enough for six yokes. One man is required to drive the cattle at the well, and another to open and close the water channels leading into the beds. When these men have done their turn of work, they have to be relieved by two others. A fifth man is required to look after the bullocks not at work. The persons employed in turning on the water must be stout fellows; but the cattle-drivers may be boys or old men. The herd will usually be a well grown lad.

Kamìns or *sepìs*.

Besides day labourers and farm servants, the agriculturist has other assistants, *viz.*, the *kamìns* of the village. These are the *tarkhàn* or carpenter; the *lohàr*, or blacksmith; the *kumhàr* or potter; the *mochi* or shoe-maker: the *chùhra*, or sweeper; and the *nài*, or barber. These men, however, do not assist directly in agriculturalo perations, but supply and repair the implements required, and look after the personal appearance of their constituents. They are called *sepi* as well as *kamìn*. They are paid certain dues in kind at each harvest, which are on the Sutlej as follows:—

Nature of expense.	Grain or *zabti*.	Amount.
Tarkhàn (carpenter) ...	Grain.	Four *mans* per well per annum.
" ...	"	One *topa* per heap each harvest.
" ...	"	One bundle per share "
" ...	*Zabti.*	Twenty *subbs* of tobacco per well.
" ...	"	One day's cotton-pickimg.
Nài (barber) ...	"	Is paid as carpenter.
Kumhàr (potter) ...	"	Is paid as carpenter, and gets besides an ass-load of unthreshed corn.
Lohàr (blacksmith) ...	Grain.	Two *mans* per well per annum.
" ...	"	One *topa* per heap each harvest.
" ...	"	One bundle per share "
" ...	*Zabti.*	Ten *subbs* of tobacco per well.
" ...	"	One day's cotton-picking.
Mochi (cobbler) ...	"	Is paid as the *lohàr*.
Chùhra (sweeper) ...	Grain.	Fifteen *mans* per well in spring, including *talwera*. In autumn, according to produce.
" ...	"	One bundle per share each harvest.

On the Rávi the *kamìns* are paid as follows:—

Description of charge.	Spring.	Amount.
Tarkhàn ...	Per well twelve *pàis* and three bundles of grain. In *sailàba* lands one *pài* of grain and one bundle per plough.	Per well, half what he gets in the spring. In *sailàba* lands, half *pài* and one bundle per plough. In both cases cotton worth one rupee.

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Kamins or *sepis*.

Description of charge.	Spring.	Autumn.
Nái ...	Per well six *páis* and three bundles of grain. In *sailába* lands, per plough, one *pái* and one bundle of grain.	Per well three *páis* and one bundle and a half of grain. Per plough, in *sailába* lands, half *pái* and one bundle of grain.
Kumhár ...	As *tarkhán*, at well ...	As *tarkhán* at well. As *nái*, in *sailába* lands.
Lohár ...	Per well six *páis* and three bundles of grain. Per plough in *sailába* lands, one *pái* of grain.	Per well, half what he gets in spring.
Mochi ...	Per well, three to five *mans* and four bundles of grain. In *sailába* lands, as *nái*.	Per well, half what he gets in spring and one-half the grain remaining after division of crop. In *sailába* lands, as *kumhár*.
Chúhra ...	As *mochi*	As *mochi*; besides he gets a blanket in Kátik.

Further particulars regarding their dues have already been given in discussing rent and division of crops.

Duties of *sepis* and other village servants.

The *mírási (jakh)* is an individual who sometimes does not appear at all. He is a symbol often and may be represented by any fitting object of charity. The *mírási (sepi)* is the village bard and genealogist. He is sure to turn up at a marriage. The *rasúlwáhi* is a fee paid to the *mulla* or priest. He writes charms to keep off goblins and cattle disease. *Fakírs, brahmins*, and the occupants of *dharmsálas*, and attendants of shrines make themselves spiritually useful, and show moderate hospitality to travellers. The *brahmin* is besides the go-between in Hindu marriages. The *dharwái* weighs the grain and keeps the village accounts. The *thápi* or *muhassil* is a man set to watch the grain after it has been cut and stacked. He has to see that none is removed before a lawful division has been made. The *thápi* derived his name from a wooden stamp with which he stamped bits of mud placed here and there on the stack to prevent its being tampered with. This stamp was called *thappa*. The *khoji* tracks stolen cattle, and has plenty to do. It must not be imagined that priests, *fakírs*, &c., reside in every village. These personages have villages as their constituents, but reside wherever they see fit. The *kamins* supply and repair certain agricultural implements, and are paid separately for any extra work they do. The importance of the barber, who arranges Muhammadan marriages, besides plying his razor, will be observed.

Petty village grantees.

The last two lines of Table No. XVI show the number of persons holding service grants from the village, and the area so held. But the figures refer only to land held free of revenue, which is by no means the only form which these grants assume. Sometimes the land is leased to the grantee at a favourable rent, or on condition of payment of revenue only; sometimes the owner cultivates and pays the revenue, making over the produce to the grantee; while occasionally the grant consists of the rights of property in the land, which, subject to the usual incidents, such as responsibility for revenue and the like, vest in the person performing certain specified services at such time and for so long as he performs them. These grants are most commonly made to village menials and watchmen on condition of, or

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in payment for services rendered, to attendants at temples, mosques, shrines, or village rest-houses so long as they perform the duties of the post, and for maintenance of monasteries, holy men, teachers at religious schools, and the like. The fees paid at harvest to such persons have been noticed above.

The figures in the margin exhibit the existing number of these in the *tahsíls* of this district. The village headmen succeed to their office by hereditary right, subject to the approval of Deputy Commissioner, each village having generally one, some large villages and a few small ones, have each three or four *lambardárs*. They all represent their clients in dealing with the Government, and are responsible for the performance of their duties, such as the collection of the revenue, carrying out the orders of Government, and reporting all deaths, and abscondings, &c., of *máfidárs*, and are bound to assist in the prevention and detection of crime. There is a chief headman for each village. In small villages the only *lambardár* is the chief headman; they receive all Government orders in the first instance; chief headmen are appointed by votes of the proprietary body, subject to the sanction of the Deputy Commissioner. *Zaildárs* are elected from their respective circles of *zails*, due regard being had to their ability, right, caste of the appointing parties, &c.

Tahsil.	*Zaildars.*	Chief headmen.	Village headmen
Montgomery	8	85	320
Gugera ..	10	113	428
Dipalpur ..	11	176	618
Pak Pattan ..	8	105	151
Total..	37	479	1,517

All these are remunerated by an extra cess, *viz.*—

Chief headmen ... 1 per cent. } on the land revenue.
Lambardárs ... 5 " }

It is not deducted from the land revenue. These persons realize their fees themselves. The fees on water-rates are paid as follows—half from the revenue realized, and the other half is recovered by them direct from the rent-payers.

The head-quarters of the *zails*, together with the prevailing tribes in each, are shown as follows :—

Tahsil.	*Zail.*	No. of villages.	Annual land revenue.	Prevailing caste or tribe.
			Rs.	
Montgomery.	Shiraza	16	2,961	Saiyad, Kureshi, Khagga, Mahtam, Wattu.
	Garh	32	8,784	Tharana, Purbana, Saiyad, Kathya, Fattyana, Wasli, Arora, Wattu, Hindlana, Jatke.
	Dhaulri	25	4,387	Kathya, Saiyad, Wahr, Baghela,.
	Kamalia	85	9,066	Wahniwal, Arora, Kharal, Mammar, Bhaguana, Saiyad, Jakkhar, Khod Chisti, Sahu, Khokar.
	Chichawatni ..	108	7,272	Kathya, Arora, Darsana, Kanjan, Bab, Sanpal, Warbhu, Biloch, Saiyad, Sandrana.
	Harrappa	63	9,144	Kathya, Arora, Sanpal, Bhatti, Joota, Khagga, Tula, Bhula, Khokar, Mammar, Fattyana, Sahu, Hans, Kalya, Wattu, Lak.
	Edalwala	108	9,701	Saiyad, Biloch, Kureshi, Bashera, Sagla, Arora, Purbera, Wasli, Tula, Saiyad, Shamor, Bodhla, Dhakku.
	Nur Shah	58	4,346	Saiyad, Biloch, Khagga, Wattu, Sahu, Arora.

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Tahsil.	*Zail.*	No. of villages.	Annual land revenue.	Prevailing caste or tribe.
			Rs.	
Gugera.	Akbar	36	2,620	Moghal, Wattu, Jat, Sikh, Arora.
	Gugera	95	7,689	Arora, Wattu, Kharal.
	Jandraka	38	7,705	Kharal, Jandraka, Khatri, Khichi, Saiyad, Churera.
	Satghara	33	4,379	Joya, Khatri, Kharal, Lishari, Biloch.
	Chuchak	64	6,817	Jat, Sikh, Arora, Bharwana, Chishti, Bhatti.
	Chendpur	39	7,519	Manes, Sarai, Bath, Chaddhar.
	Lundianwala ..	110	6,972	Kharal, Manes, Khichi, Arora, Baddhe, Dulche, Awan.
	Saiyadwala ..	34	6,114	Saiyad, Moghal, Khatri, Arora, Brahmin.
	Danabad	67	7,121	Kharal, Ogahi, Sahi, Khichi Chore.
	Jhamra	68	6,819	Kharal, Arora, Wattu.
Dipalpur.	Dhuliana	46	11,071	Arora, Saiyad, Jat, Hindu, Mahtam, Wattu, Kambohs, Arora.
	Hujra	78	9,689	Chishti, Arain, Kamboh, Saiyad, Khatri, Arora
	Shahpur	41	13,046	Awan, Bhutta, Arain, Bedi, Sarai, Jat, Kamboh, Arora.
	Jethpur	43	11,328	Kamboh, Jat, Hindu, Khatri, Arora, Fakirudasi, Bhatti, Mahtam.
	Attari	77	9,560	Wattu, Mahtam, Rathaur, Jat, Hindu, Juj, Bhularwan, Fakirudasi, Bodla.
	Basirpur	92	8,170	Arain, Armenian, Jhuj, Saiyad, Arora, Khatri, Pathan, Chishti, Tahar.
	Mathela Salamka	41	7,594	Wattu, Mahtam, Mahar, Armenian, Chishti.
	Maihu Shekhuka ..	54	8,941	Wattu, Faqirudasi, Arora, Kharal, Bodla, Chishti, Mahtam.
	Haveli	87	10,762	Arora, Biloch, Faqirudasi, Chishti, Khatri, Arain, Wattu, Pathan, Kamboh, Tahar, Pandit.
	Imli Moti	31	9,600	Kamboh, Khokhar, Arain, Bedi, Arora, Bodla, Faquirudasi, Khatri.
	Dipalpur ..	107	12,634	Khatri, Kamboh, Brahmin, Nunari, Arora, Saiyad, Sarai, Wattu, Bodla.
Pak Pattan.	Bunga Hyat ..	99	7,418	Wattu, Mohal, Pathan, Arora, Saiyad, Bodla, Bedi.
	Malleke Taroke ..	41	8,707	Wattu, Mahtam, Bodla, Pathan, Biloch, Dhudi, Brahmin.
	Pak Pattan ..	47	5,635	Biloch, Dhudi, Chishti, Khatri, Bodla, Arora.
	Malka Hans ..	76	4,750	Hans, Arain, Arora, Kamboh, Bedi, Bodla, Biloch, Brahmin.
	Killiana	78	6,219	Arora, Saiyad, Chishti, Dogra, Rath, Khagga.
	Hota	47	9,010	Pathan, Joya, Wattu, Saiyad, Chishti, Hutiana, Rath.
	Kabula	101	5,816	Arora, Rath, Chishti, Kamboh, Joya.
	Behli Kalan ..	81	5,094	Joya, Saiyad, Chishti, Arora.

Zaildárs.

At the Settlement of 1874 *zaildárs* were appointed over clusters of villages. These office-holders are meant to serve as a link between the Government officers and the *lambardárs.* They were selected with reference to their personal fitness and the influence they possess among their clansmen. As far as could be managed, villages of the same clan were included in the same *zail;* but of course this principle could not be carried out in its integrity. The *zaildár* is head *lambardár* of one or more villages, and as such, receives his remuneration as *lambardár* with an additional 1 per cent. on the revenue of the village. As *zaildár*, he receives 1 per cent. on the revenue of his *zail;* and in the Dipálpur and Pák Pattan *tahsíls*, small portions of waste-land have been exempted from revenue by Government and made over to the *zaildárs.* Similar grants were made in some cases in Gugerá and Montgomery; but as they were not made in a strictly correct manner, the *zaildárs* have occasionally not been able to get possession. The average number of estates in each *zail* is 59. Of

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the *zaildár*, six are Kharrals and six Wattús; four are Aroras and three Khatrís; the Saiyads, Afgháns, Joyás, and Kambohs have each two representatives; and the Khaggas, Háns, Káthias, Baghelas, Siáls, Bíloches, Manes, Aráíns, Arars and Phularwáns one each.

Head *lambardárs*.

In all villages with more than one *lambardár*, a head *lambardár* is appointed. As head *lambardár*, he gets 1 per cent. on the revenue of the village. The object of this appointment is to secure one *lambardár*, who shall be responsible for carrying out official orders and thus put a stop to the hindrance caused by each *lambardár* making excuses and throwing the burden on the shoulders of the others. The votes of the share holders are principally looked to in making the selection of the head *lambardár*.

Lambardárs.

The number of *lambardár* in the district is 1,517, which gives about three *lambardárs* to every four estates; many men are *lambardárs* in several estates. The average remuneration is uuder Rs. 6 per annum.

Patwárís.

There are 137 *patwárís* in the district (10 *Hindi Khwán* and 127 *Fársi Khwán*). The following table furnishes details:—

Name of *Tahsil*.	Number of *Patwaris*.			Average per circle of			Average annual pay.
	Total.	*Farsi Khwan.*	*Hindi Khwan.*	Village.	Total area in acres.	Cultivated area (acres).	
Montgomery ..	33	33	..	15	6,986	2,258	109
Gugera ..	39	31	8	17	8,071	2,047	109
Dipalpur ..	47	39	2	13	11,217	4,130	118
Pak Pattan ..	24	24	..	23	13,845	2,901	114

The pay here entered is exclusive of the percentage on the *ábiána*, which falls to the share of the *patwárís*. In Dipálpur the rate at which the *patwárís* are paid is 5 per cent. on the *jama*; and that is the usual rate in the Rávi *tahsíls*. In Pák Pattan the rates vary.

The *dharwái*.

The *patwárí*, we are told, is the village servant. In this district he never was, and never will be, a village servant. He is, as Lieutenant Elphinstone says, "a new creation of our Government." The *dharwái*, who still flourishes, was the village accountant; the modern *patwárí* corresponds rather to the Sikh *mutsaddi*. The *dharwái* still keeps the village accounts and weighs the grain as he did of yore. He keeps a shop, and generally takes the contract for the collection of the *dharat*. His papers are drawn up in *Lande*, not *Gurmukhi*. In former days he used to accompany the *mutsaddi* and make a copy of the papers prepared on the field; and he assisted the *lambardár* in collecting the revenue from the tenants, and waited on travellers. In 1863 it was proposed to employ the *dharwáis* as a subordinate *patwárí* agency. It appeared then that in some villages there was no *dharwái*, in some there were two. Some *dharwáis* actually collected the revenue and paid it in. The *patwárís* got all their information from the *dharwáis*. So books with columns were prescribed for the use of *dharwáis*. But the *dharwáis* did not use them, and the whole thing came to nothing. The *dharwái* is the village servant. The *patwárí* is a Government servant.

Village watchmen.

Village watchmen are paid at the rate of Rs. 3 *per mensem*. Their beat includes often more than one village. The amount due is *báchhed* every six months.

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Mortgages.

Mortgages are of two kinds in this district. In one form known as *lekhá mukhi* the mortgagor manages the cultivation. The mortgagee pays the revenue and takes the produce. Accounts are made up annually and interest is charged. If the produce is in excess of the expenses, the surplus is credited to the mortgagor; and if less, he is debited with the deficiency. Sometimes the mortgagee manages the estate. In the second form of mortgage, called *viáj panára*, no accounts are kept. No interest is charged. The mortgagee holds the land till the mortgage-money is paid up. He is responsible for all loss, and takes all the profit that may accrue on the land. Both forms are common on the Sutlej; on the Ràvi the *lekhá mukhi* form is the more frequent.

Poverty or wealth of the proprietors.

Table No. XXXII gives statistics of sales and mortgages of land; Tables Nos. XXXIII and XXXIIIA show the operations of the Registration Department; and Table No. XXXIX the extent of civil litigation. But the statistics of transfers of land are exceedingly imperfect; the prices quoted are very generally fictitious; and any figures which we possess afford but little real indication of the economical position of the landholders of the district. Mr. Purser writes as follows on the subject of the indebtedness of the agricultural classes:—

"The revenue and the seed are usually borrowed; and there are very few villages that are not seriously in debt. This is a matter of little importance so long as the *karár* does not try to oust the proprietors and get the land into his own hands. But such a course is very rare in this district, because, except in the canal villages, a *karár* makes a great deal more as creditor of the owner of the land than he would as owner himself. But the people are very bitter about the exactions of the *karárs*, and make unpleasant comparisons between now and the good old Sikh times. Then, if a man owed a *karár* money, and they could not arrange matters, the case went before the *kárdár*. The *kárdár* had the *karár's* books examined, and on being told how much principal and how much interest was due, he would say: 'strike off so much interest!' Then he would inquire how many cattle the debtor had. He would be told, so many. 'And what are they worth?' 'Ten rupees each head.' 'Good! the *karár* must take the cattle at Rs. 12 each in payment of his debt;' and every body went off satisfied. Now the debtor offers cattle; but the creditor prefers *chehra sháhi* rupees. A suit is the consequence, and the debtor has to pay the costs in addition to the claim. The creditor who before the suit had no desire to have the cattle, suddenly discovers that they are not without merit. He executes his decree, attaches the cattle worth Rs. 10 each, and buys them himself for Rs. 5. There is a great deal of truth in this account of matters; but the fact seems to be totally forgotten that the *karárs* did not rob the people then so much as they do now, simply because the Sikh *kárdár* took very good care that the people should have nothing whereof to be robbed."

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

SECTION A.—AGRICULTURE AND ARBORICULTURE.

Chapter IV, A.

Agriculture and Arboriculture.

General statistics of agriculture.

Table No. XIV gives general figures for cultivation and irrigation, and for Government waste land; while the rainfall is shown in Tables Nos. III and IIIA and B. Table No. XVII shows statistics of Government estates. Table No. XX gives the areas under the principal staples, and Table No. XXI the average yield of each. Statistics of live-stock will be found in Table No. XXII. Further statistics are given under their various headings in the subsequent paragraphs of this chapter. Land tenures, tenants, and rent, and the employment of field labour, have already been noticed in Chapter III, Section C.

Agricultural calendar. The weather.

The months of the year are known by the following names:—

Chetr,	middle of	March	to middle of	April.
Visákh	,,	April	,,	May.
Jeth	,,	May	,,	June.
Hár	,,	June	,,	July.
Sánwan	,,	July	,,	August.
Bhádron	,,	August	,,	September.
Assú	,,	September	,,	October.
Kátik	,,	October	,,	November.
Maghar	,,	November	,,	December.
Poh	,,	December	,,	January.
Mágh	,,	January	,,	February.
Phagan	,,	February	,,	March.

The agricultural year commences on the day of the first full moon in Chetr. That day and the eight following days (*nauràta*) are lucky days.

CHETR.—*Rain.* Two or three moderate showers are good, as the outturn is then better and the grain large, and there is less danger of the diseases *kunghi* and *tela*. *Wasse Phagan te Chetr, an na mewe ghar, na mewe khetr.* "If it rains in Phagan and Chetr, neither the house nor the field will contain the grain." *Wind.*—The wind should always be moderate. If strong, the grain is light and the ground dries up, and if the crop has been watered, the plants shake about, and the roots become exposed. The wind should be from the east to bring up rain. After rain, from the west to ripen the crops. *Sunshine* and *heat* should be moderate.

VISAKH.—*Rain* is most injurious. It injures the grain and rots the straw. *Wind*—Should be hot and of average strength, coming from the west. This dries the grain and straw, and facilitates threshing and winnowing; *sunshine* and *heat* should be strong. In this month the spring harvest ripens and is cut.

JETH.—In this month the harvest operations are completed and the crops housed. Weather should be as in Visákh. The hotter the *wind* and *sun* the better.

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Agricultural calendar. The weather.

HAR.—Up to the middle of Hár the weather should be as in Jeth, for some crops may still be in the fields. After the middle, there should be heavy and repeated *showers*. These are favourable for preparing the land for next harvest, and for the production of grass. The rains commence in this month. The *wind* should be from the east, the rainy quarter. Strong *sunshine* and *heat* are bad, as crops artificially irrigated are injured by the water getting heated.

SANWAN.—Weather should be as in the latter half of Hár.

BHADRON.—In this month the crops commence to flower; *rain* is much wanted. The *wind* should be sometimes from the east to bring on rain, and sometimes from the west to assist the maturing of the crops. The *sunshine* and *heat* ought to be moderate.

ASSU.—Heavy *rain* is injurious to the flowering crops; but a few light showers at the beginning of the month are of benefit to the *rabi* harvest and injure the *kharíf* crops little. *Wind* as before up to the middle of the month, then west. *Sunshine* and *heat* should be moderate. The month is thus described:—

Assu máh nirále;
Dihán, dhúpán; ratín pále.

"Assú dewy month, sunshine by day, chills at night."

KATIK.—There should be no *rain*, as rain stops the *rabi* sowing and spoils the ripe autumn crops. However, it never does rain in Kátik. The *wind* should be from the west, and not strong, as otherwise irrigated lands of the *rabi* harvest dry up. *Heat* and *sunshin* should be moderate.

MAGHAR.—The weather should be as in Kátik. Frosts at night retard the growth of the crops.

POH.—It should *rain* in Poh, according to the saying—

Wase Pohín máhín,
Kaun ákhe meri jami náhín?

"If it rains in Poh and Magh, who will say my (crop) has not come up?" The less *wind* the better, as the weather is cold, and cattle suffer from the wind, especially from the north and west winds.

MAGH.—There should be *rain* in this month. Gentle westerly *breezes* are good for the crops, as they bring them on and keep off *kunghi* and *tela*. The north wind is injurious, as it is cold and dries up the crops. The east wind, too, is hurtful, according to some, but not so according to others.

PHAGAN.—The weather in this month should be of the same kind as in Chetr. This is the end of the cold weather.

Pálá gayá singálián charhde Phagan Máh,
Turián bhi jhulián sattián charhde Phagan Máh:

"The cold weather went for horned cattle at the commencement of Phagan; horses, too, cast off their coverings at the commencement of Phagan."

The winds and their effects.

The winds are the north-wind or *pahár*; the east-wind or *púra*; the south-wind or *dakkhan*; and the west-wind, called *dhawi* by the people, because it keeps off rain and so floors or knocks down (*dhaona*), the farmer. But *mahájans* call it *soni* or the golden, according to

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The winds and their effects.

village etymology, but the word may come from *suna* empty, or *sona* to sleep. The effect of the winds is thus expressed :—

Dakkhan mele, pura wasàwe;
Dhàwi wasdeàn nun wanjàwe.

"The south-wind collects (the clouds), the east-wind causes them to rain, the west wind disperses them when raining." One may have too much of the east-wind though; for "if the east-wind always were to blow, that were also exceedingly bad:" *Nit ghule pùra, oh bhi bure se bura.**"

Winter and summer rains compared.

The winter rains are so important that one is tempted to put them on an equality with the ordinary summer rains. When the winter rains are good, the *rabi* crops flourish, and the maximum outturn is obtained with a minimum of labour spent in irrigation. But the summer rains besides greatly aiding the preparation of the land for the *rabi* sowings, produce abundant grass, and on this account should be held the more important of the two. Tables Nos. III, IIIA, IIIB, show the rainfall of the district. It will be observed how much more rain the two *tahsìls* bordering on Multán get than those bordering on Lahore.

Monthly statement of agricultural work.

A statement of the operations of ploughing, sowing, and reaping for each month of the year is given below for convenience of reference. When ploughing immediately precedes sowing, no special mention is made of it :—

Month.	Crops for which ploughing takes place.	Crops sown.	Crops cut.
Chetr (middle of March to middle of April).	..	..	*Zira*, barley, gram, *chural*, *masar*, *sarhon*, poppy and *sounf* during the latter half. Vegetables, turnips (for seed), and *methra*.
Visakh (middle of April to middle of May).	..	*Charri*, cotton, *sankukra*, melons, *rawan*, and rice (in beds).	*Zira*, wheat, *rawan*, gourds, gram (at beginning, if late).
Jeth (middle of May to middle of June.	..	Cotton, *sankukra*, rice (broad-cast), *rawan*. In latter half *sanni*.	Gourds and *rawan*. In second half, *china* and tobacco.
Har (middle of June to middle of July).	..	Rice broadcast, *sanni*, *jowar bajra*, *makki*, *kangni*; pepper is transplanted at the beginning of the month.	*Rawan*, *tobacco*, and *chilna*: In first-half, *charri* and gourds.
Sawan (middle of July to middle of August).	Wheat, barley, and *sarhon*.	Rice broadcast and transplanted, *jowar*, *bajra*, *til*, *moth*, *makki*. In second-half *mung*.	..
Bhadron (middle of August to middle of September).	As in Sawan	In first-half, *makki*, *mah*, and *china*. In second-half, gram turnips, *sarhon* and vegetables.	*Rawan*; in second-half *kangani*.

* One more distich, partly bearing on the weather, may be quoted on account of its remarkable resemblance to a "versified proverb" given on page 115 of the Hoshangabad Settlement Report. It runs thus :—

Titar kambhi badli, rànd malài khàe;
Oh wasse, oh ghar kare; bachan na khàli jàe.

"If the cloud is like partridge feathers and if a widow eat cream, the former will rain, the latter will marry; this saying will not prove empty." There are several versions of this proverb.

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Inundation canals.

Year.	KHANWAH CANAL.							UPPER		
	COMMENCED RUNNING.			Name of supply-head used.	CEASED RUNNING.			COMMENCED RUNNING.		
	Date.	Depth of water at head.			Date.	Depth of water at head.		Date.	Depth of water at head.	
		On gauge.	On silt.			On gauge.	On silt.		On gauge.	On silt.
1862-63...	1st April ...	1·8	1·4	...	23rd Nov.	2·1	1·9	12th April	2·1	2·1
1863-64...	20th ,, ...	1·4	1·4	...	30th ,,	0·3	...	16th ,,	3·1	3·1
1864-65...	15th ,, ...	2·0	2·0	...	1st Dec.	...	...	14th May	1·0	1·0
1865-66...	1st Mar. '65	4·0	4·0	...	30th Nov.	0·4	...	28th April	4·9	4·9
1866-67...	10th April...	1·0	1·0	...	30th ,,	...	...	17th ,,	0·7	0·7
1867-68...	1st ,, ...	Not recorded		...	15th Oct.	1·8	Not recorded	14th ,,	2·8	2·8
1868-69...	20th May ...	3·5	3·5	...	20th ,,	3·6	1·8	16th ,,	1·6	1·6
1869-70...	15th April...	3·9	3·9	...	Closed on 14th Dec.	2·4	1·4	18th May	4·3	3·9
1870-71...	11th ,, ...	1·2	1·2	...	15th Nov.	0·1	...	24th ,,	3·5	3·5
1871-72...	20th May ...	0·9	0·9	...	31st Aug.	1·0	1·0	1st ,,	0·6	0·6
1872-73...	19th April...	1·0	1·0	...	31st Oct.	0·9	0·9	17th April	2·0	2·0
1873-74...	13th ,, ...	0·9	0·9	...	10th ,,	0·7	0·4	13th ,,	1·3	1·3
1874-75...	11th ,, ...	2·2	2·2	Betu	26th Sep.	1·6	0·8	13th ,,	3·6	3·6
1875-76...	18th ,, ...	2·3	2·3	,,	20th Nov.	0·2	0·2	26th ,,	1·5	1·5
1876-77...	22nd ,, ...	0·9	0·9	,,	29th ,,	...	...	27th ,,	1·6	1·6
1877-78...	7th Feb. '77	3·2	3·2	,,	15th ,,	...	...	4th June	2·5	2·5
1878-79...	19th Mar. '78	1·0	1·0	Rája-wála.	24th Oct.	0·4	0·4	7th April	3·5	3·5
1879-80...	11th April...	0·4	0·4	,,	26th Sep.	...	...	3rd May	2·3	2·3
1880-81...	10th ,, ...	0·8	0·9	,,	2nd Oct.	...	...	14th ,,	2·9	2·9
1881-82...	14th ,, ...	1·1	1·1	Betu	6th ,,	2·7	0·5	11th April	1·6	1·6
1882-83...	16th June...	4·7	4·7	,,	20th ,,	1·6	...	23rd ,,	2·5	2·5
1883-84...	2nd May ...	1·6	1·6	Betu Lakhu wáli.	15th ,,	0·9	...	4th May	1·4	1·4

NOTE.—The *Khánwáh Canal* ran continuously from the 15th April 1869 to the 14th
The *Upper Sohág Canal* ran continuously from the 11th April 1881 to the
was opened on the 23rd April 1882 and continued to run up to the 12th

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Kallar shor.

The Ganji *bár* presents long stretches of saline soil; and along the rivers, especially where the floods have failed, *kallar* is common. When it is not bad, wheat can be grown with fair success. Other crops do not do so well. The seed is sown in such soils with a drill and not broadcast, as is usual in good land. Soil impregnated with *kallar* is highly non-absorbent. Up to the present the canals have done very little damage, as regards producing it. Some wells have been abandoned on account of *kallar*, caused by the Khánwáh appearing.

Irrigation.

The water required for agricultural operations is for the most part obtained by artificial means; from inundation canals or smaller water-cuts from the rivers, either by overflow or lift; from wells and from *jhallárs* on the banks of the rivers, or on *budhs*. The Khánwáh, upper and lower Sohág, and the Nikki canals have been noticed in the first chapter of this volume, together with the more important minor cuts from the Sutlej and the Rávi; and some account has also been given of the inlets or *budhs*. The dates at which the inundation canals commence and cease flowing are uncertain, depending partly on the rise and fall of the rivers, and partly on the direction in which the main stream runs. From the middle of May to the middle of September may be taken as the normal time the canals flow. Sometimes the Khánwáh does not commence to run till June; and it has been known to run all the year round. A short time ago it ran till December, when it had to be dammed up for silt clearance. Irrigation on the lower Sohág is largely by the Persian-wheel or *jhallár*. But in years of heavy flood as much as half the whole irrigation can be watered by flow. The system on which the Government canals are administered, and the arrangements for their clearance, are described in Chapter V. The table shown on the next two pages gives the duration of supply in the Khánwáh and upper and lower Sohág canals for 22 years ending with 1883-84.

The inundation canals.

Value of the inundation canals.

The inundation canals are doubtless uncertain. Sometimes they fail just in time to ruin the harvest; but for all that they are most essential to the prosperity of the country irrigated by them. They have considerably raised the water level in the wells, among other benefits. Without them the Dipálpur *tahsíl* would be as dreary a waste as the western portion of Pák Pattan. Canal-water is, according to popular report, better than well-water for all crops except onions, melons, and tobacco. But it is held to be good for cotton and other plants that flower conspicuously, to water them with well-water just before they flower, as canal-water is too hot. But very few care to do what is good for cotton, if they can help themselves.

Canal and well-water compared.

Wells, general. Area irrigable from a well in a year.

The greater portion of the cultivated land of the district is watered from wells, of which there were 7,195 in the district in 1879. The use of the *láo* and *charsa* is not known. Water is raised by the Persian-wheel. Wells are lined with brick-work, in which case they are called *pakka;* or they have no such lining, and are known as *kacha*. The depth of the well to the water varies from a few feet in the *kunds* and *donas* along the rivers to about 60 feet in the Ganji *bár* and the Sandal *bár*. The cost of a well and the area it can irrigate annually depend very much on the depth to

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Sikand.

of *gasra* would be sufficient. *Sikand* is of a blackish colour, it splits into fissures when drying after irrigation, and is very hard, as a walk across a rice-field will prove. The test of *sikand*, if one is in any doubt, is to throw a lump into the air. If on reaching the ground it splits into little pieces, the soil is *sikand*; if it pulverizes completely it is *gasra*. On the Rávi, *sikand* is found chiefly along the Deg *nalla* and in the neighbourhood of the river. On the Sutlej it occurs principally on the Khánwáh canal and near the river itself. It is less frequent towards the Multán border on both rivers. One would think it an alluvial deposit, if one knew how to account for the soils on the Soház canal being almost entirely *gasra*. This latter soil is soft, and of a soft brown colour when irrigated. It is excellent soil for all crops, except rice; and is much liked by the people on account of the little labour and irrigation it requires to produce a good outturn. If it has not been sufficiently ploughed, or if there is any admixture of *kallar*, it will crack too after irrigation, but not to the same extent as *siand*. The bulk of the soil is *gasra* in Montgomery. *Retli* is most common on the upper Rávi and on the banks of the Sutlej. It is bad poor soil, and the outturn on it is inferior unless the land has been manured. *Khip*, *buru*, and *resham* flourish in this soil, though found in light *gasra* too. In Gugerá this soil is also called *hauli*, which simply means light. *Karkani* is a class of soil very rare in the northern *tahsíls*. It is common in Dipálpur, in the tracts irrigated by the Khánwáh and Soház canals, and along the upper part of the Sutlej. In Pák Pattan it is chiefly met with along the lower course of the river. It is a fair soil when well irrigated, but contains *kallar* and is not liked. It seems an inferior *sikand*. A slimy crust is said to form on *karkani* after irrigation.

Gasra. *Retli.* *Karkani.*

Maira.—Rohi.

Two other kinds of soils are recognized in Gugerá—*maira* and *rohi*. The former seems to be a good class of *gasra*, and the latter a sort of *sikand*. But these terms are seldom used by the people.

Areas and percentages of different kinds of soil.

The total cultivated area of the district is 364,591 acres according to the returns of last Settlement. Of these, 16,158 are manured. Excluding the manured area, there remain 348,433 acres, of which 134,982, or 38·7 per cent., are *sikand*, *pakki*, and *rohi*; 169,958, or 48·8 per cent., *gasra* and *maira*; 12,387, or 3·5 per cent., *karkani*; and 31,106, or 9 per cent., are *retli* or *hauli*. The *sikand* area is probably exaggerated. As a rule, the soil of the district is of good quality, and the people rarely complain about it. They do say it has got old in many places, and no longer produces the crops it used. This is not unlikely, but there is no reason to believe that any serious deterioration has taken place. According to Lieutenant-Colonel Tremenheere (Select Papers of the Agri-Horticultural Society of the Punjab, 1862, page 57) the soil of the Bári Doáb shows a marked deficiency of soluble and carbonaceous matter. *Kallar shor* has been noticed at page 16. In this district, well-developed *kallar* is found mostly in slightly elevated pieces of land when the lowlands adjoining them have been inundated. Canal water causes *kallar* in land contiguous to that it irrigates, but destroys it in land which it floods. There is, comparatively speaking, very little bad *kallar*; but there is a great deal of *kallar* more or less injurious to vegetation.

Kallar shor.

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Agriculture and Arboriculture.
Monthly statement of agricultural work.

Month.	Crops for which ploughing takes place.	Crops sown.	Crops cut.
Assu (middle of September to middle of October).	..	Vegetables, gram, *charal*, *masar*, turnips, *sarhon*. In second-half poppy and barley.	In first-half *kangani*, cotton, *makki*, *rawan* and *sankukra*; rice in second-half.
Katik (middle of October to middle of November).	Tobacco	Poppy and *methra* in first half. Also tobacco in beds. Wheat, barley, *masar charal*, *zira*, and vegetables.	Rice in first-half; cotton, *bajra*, *makki*, pepper, *sankukra*, and *sanni*. In second-half *jowar*, *moth*, *mah*, *mung*, *til*, and sugarcane.
Maghar (middle of November to middle of December).	Tobacco	Barley in first-half. Wheat and *zira*.	In first-half *jowar*, *moth*, *mah*, *mung*, and *til*. Cotton, sugarcane, pepper and *sanni* during whole month; *china* and tops of turnips in half.
Poh (middle of December to middle of January).	Tobacco, cotton, vegetables and sugarcane if it rains.	*Zira*.	In first-half cotton and *china*. Sugarcane, pepper, and tops of turnips the whole month.
Magh (middle of January to middle of February).	As in Poh	..	Turnips (roots).
Phagan (middle of February to middle of March).	..	Sugarcane, pepper in beds melons, vegetables, *china*, *rawan*, and transplant tobacco.	Turnips in first-half.

Soils.

The soils of the district are, as usual in the plains, of three kinds: clay, loam, and sand. By loam is meant a mixture of clay and sand. The common name for clay soil is *sikand*, or *pakki* in the trans-Rávi portion of the Gugerá *tahsíl*. A sandy soil is known as *retli*, and a loamy soil as *gasra*. In the purest *sikand*, however, there is always some slight admixture of sand, and no *retli* is cultivated that does not contain some little clay. The quantity of clay or sand respectively is so small though that it need hardly be considered. *Sikand* is the Hindustáni *dákar*. *Gasra* is *rausli*, and *retli* is *bhur*. If well cultivated, *sikand* is the best soil, and will give the largest outturn; but with the system of cultivation now in vogue among the people, *gasra* must be held to rank first. *Sikand* is the only soil in which rice is grown, chiefly it would seem because it is the only soil which, when thoroughly saturated, will support the bullocks ploughing it up. Seed does not germinate in it as well as in *gasra*, and so a larger quantity of seed-grain, about 25 per cent. more, is required. It takes more irrigation too than *gasra*; but, on the other hand, an equal area of *sikand* can be irrigated in two-thirds the time required for *gasra*. There is usually a sandy substratum to both kinds of soil; but it is much nearer the surface when *sikand* is the upper crust than when *gasra* is. This substratum is said to act as a sponge, and absorb the water poured on the land, and its being nearer the surface in *sikand* soils is one cause why more water is required. Another cause is the greater evaporation that takes place owing to the non-absorbent qualities of *sikand*. Two waterings of *sikand* are stated to be required where one watering

Sikand.

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October to April. In the case of an ordinary *jhallár*, the water is much nearer the surface than in an average well, and so the *jhallár* will irrigate much more than the well; at least half as much more.

Wáns—method of working a well.

A *kámil*, or thoroughly found well, has six yokes of two bullocks each. In some cases there are as many as eight yokes, but the average is under six. If the well is fully yoked, there are, as a rule, more than one set of cultivators. In this case they take turns at irrigating. These turns are called *wáns* or *báris*. The length of each *bári* depends on the number of yokes and the aridity of the soil. The more yokes the longer each *bári*, the drier the soil the shorter each turn. The length of the *bári* is generally six hours in Montgomery, 12 hours in Pák Pattan and Gugerá, and 24 hours in Dipálpur. If there are eight yokes at a well, each will work one *pahar* or three hours; if there are six, three will work during the day, the others during the night. If there are four yokes, each works one *pahar* and a quarter; and when the fourth yoke has done its work, the first begins again. Four yokes can keep the well going day and night. Less than four cannot.

Area irrigated in 24 hours.

A well with six yokes will irrigate about 5 *kanáls*, or ⅝ths of an acre of fair *gasra* land in 24 hours, when the water is 25 feet from the surface. The deeper the water and the more sandy the soil, the less the area irrigable. About one acre of *sikand* could be irrigated by the same well in the same time. During the hot months, irrigation is carried on only during the night. In the cold weather each well is a small village in itself. The cultivators with their families, cattle and goats, reside at it. Sheds are put up for the cattle, and feeding troughs prepared; fodder is collected in circular stacks made of cotton-stalks (called *palla*); the oratory or *tharha* is put in order and strewed with straw; and every one settles down to five months' hard work. And, standing out in a slushy field in one's bare legs, a couple of hours before sunrise on a January morning, with the thermometer marking 10 degrees of frost, opening and closing the water-courses leading into the little beds into which the fields are divided, is not the work those people would choose for themselves who are fond of calling the natives lazy.

Sailába.

The overflow of the rivers is called *sailáb*. The flooded land is *sailába* land. The area flooded varies greatly. Since the Settlement of 1856 a permanent decrease has taken place in the area inundated. Then it was 156,585 acres; the measurements of the Settlement of 1874 showed only 82,412 acres. The cause of this decrease is not clear. There may be less water in the river than there used to be; and there certainly had been a series of dry years. The Sutlej has set towards the west, covering what was once cultivated land with sand; but this has occurred in very few places. Something is due to the silting up of *nallas* like the Bakhílwah and Ding. Changes in the course of the rivers are probably as much the cause as anything. In 1852 the Rávi changed its course, going to the west; and a serious decrease in the *sailáb* took place in consequence in Gugerá. In 1853 the Sutlej carried away a projection of stiff clay soil on the Baháwalpur side of the stream which had acted as a sort of dam, and the result was an immediate diminution in the *sailába* lands of Pák Pattan. And other similar changes may have occurred. Whatever the cause may be, the result has been most disastrous. In many

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Water-supply in wells.

tenants dislike working at *wàns*; for the men working one wheel may be put to much inconvenience by those at the second wheel driving on their bullocks at an extraordinary pace, and so reducing the water-level below the limit reached by the buckets of the first wheel. In this district wells have no springs. They are filled by percolation. In some wells the water level is never much reduced—the water is then said to be *pakka-pàni*. In some the water-level is reduced by ordinary working of the well; the water in this case is called *ubkàs*. If a well is not subject to much influx of sand, it is cleaned out once in 10 or 12 years, but otherwise in five or six. The cost is only a couple of rupees. As long as the water is shallow, the cultivator does the clearance himself; when it becomes deep, *tobas* are employed. *Kacha* wells are not common. They are found only near the rivers. Sometimes they last very well—four or five years; but two years would be a high average. They are very uncertain, and may tumble in at any moment; and sometimes do, just when they are wanted to mature the crops. From the bottom to a few feet above the water they are lined with a cylinder made of wood, or branches of *pilchi* or *kàna*. They cost about Rs. 20, of which a little more than half is the cost of excavation. Such wells are the only ones found in tracts subject to serious inundation, as it matters little whether they are knocked in or not. The irrigating capacity of a *kacha* well is but little inferior to that of a *pakka* well.

Cleaning wells.

Kacha wells.

The *harat* or Persian-wheel.

The wood-work of a well is called *harat*. This is the ordinary Persian-wheel. It consists of many parts, the names of which are given in great detail by Mr. Purser. The size of the wheel depends upon the depth of the well. The larger it is, the easier work for the bullocks. The *jora* or horizontal and vertical wheels are made of *kìkar*, but on the Rávi *ukhàn* is sometimes used. A *jora* of *ukhàn* costs Rs. 20; of *kìkar*, about Rs. 30. The *màhal* or rope frame to which the buckets are fastened is made of *mùnj*. Ropes made of *dab* grass are sometimes used, but they last only a month. On an average five *màhals* are required in a year, and cost about Rs. 2 each. In *kacha* wells the *màhal* is subjected to rougher treatment than in a *pakka* well; and so seven or eight *màhals* are used up in a year. The size of the water-pots depends on the depth of the well—the deeper the well the smaller the pots. Where wells are deep, there will be 11 or 12 to the *hàth* of depth; where shallow, 9 to 10. The usual number is 10 or 11.

Jhallàrs.

A *jhallàr* is merely the Persian-wheel of a common well transferred to the bank of a canal, the margin of a *jhìl*, or the high bank of a river. A small pool is excavated immediately below the *jhallàr* to collect the water, and afford the wheels a sufficient surface to work upon. As almost the whole expense consists in the wood-work, *jhallàrs* are constructed in great numbers, and abandoned again without materially affecting the prosperity of the *zamìndàrs*. On the banks of the Deg river, which are high and narrow, they are in universal use. They are also frequently met with in favourable situations on the Rávi and Sutlej, but the cultivation depending on them in these situations is very precarious. They are very generally employed on the Khánwáh canal, but they can only be used there for *kharìf* crops, as the canal contains no water from

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Area irrigable from a well in a year.

the water. The area a well can water depends so much on the nature of the soil, the character of the season, the quality of the cattle employed, and the industry of the cultivators, that it is not possible to say the area irrigated is so much, neither more nor less. Mr. Purser found the average area irrigated in the spring was just 3½ acres per yoke, in fair average soil, with water 25 feet from the surface. This would give about 25 acres as the area irrigated from a well per annum. Including *cháhi-nahri* and *cháhi-sailába* land, no doubt more than 30 acres might be irrigated from a well. The cost of constructing a single-wheeled *pakka* well varies from Rs. 250 to Rs. 550. The depth of water, the cost of a well, and the area irrigable by it, are shown for different parts of the district in maps attached to Mr. Purser's Settlement Report. In sinking a well, a hole rather larger than the proposed brick cylinder is dug down to the sand. This is called *pár*.

Construction of wells.

Then a circular frame is laid down in the *pár*, and the cylinder of brick and mud, or in rare cases of brick and lime, is built on it. When this has got a few feet above the surface, the sand and earth inside and under the *chak* are dug out, and hoisted up and thrown aside. As the cylinder sinks, it is built up at the top. The excavation, after laying down the *chak* till the water is reached, is called *tor*. It is made by a class of men called *tobas* or *thobas*. The *toba* is armed with a broad heavy pick-shovel like an exaggerated *kahi* or *kassi*. This he strikes into the sand or earth, and when it has got a good grip it is pulled up with its load by those above. When the water is reached the excavation is called *tobái*. On the water becoming deep the *toba* has to dive. The work is very hard, and he is fed in the most sumptuous way. As soon as the cylinder has been sunk deep enough, the parapet is completed and the wood-work put in its place. There is no fixed depth to which a cylinder should be sunk below the water level. If the *chak* rests on firm soil, a smaller depth will suffice than when the foundation is shaky. In a single-wheeled well the diameter of the interior of the cylinder will be ten to twelve feet, and the thickness of the brick-work from eighteen inches to two feet. Sometimes in sinking a well, hard sticky clay occasionally mixed with *kankar*, called *jillhán*, is met with. If there is much of this, it is found impossible to sink the large cylinder or *kothi*, and a smaller one has to be sunk inside it. Similar smaller cylinders are sunk, when the water level in a well has fallen, or the bottom has given way. They are known as *bachcha*.

Cost of sinking a well.

The cost of sinking a well which was 40 feet deep and one mile from the brick-kiln is given in great detail by Mr. Purser at page 91 of his Report. It amounted to Rs. 300-7-6. The account begins with an item of Re 1-4 for *gur*, for good luck, and ends with Rs. 2 given in charity. A *toba* will be fed in this way: flour, one *ser* four *chittáks; dál*, two *chittáks; ghi*, two *chittáks*; sugar, three *chittáks;* and tobacco, two *chittáks*. The labourers get some parched gram in the afternoon to encourage them.

Double-wheeled wells or *wáns*.

Wells are built sometimes large enough to allow of two Persian-wheels working at the same time. Such a well is called *wán*. Its cylinder has an interior diameter of about 15 feet. It costs about one quarter, or as much as one-third more than a single well of the same depth. When water is near the surface, and the supply is good, such double wells are common. But where the water-level is deep

SOHAG CANAL.				LOWER SOHAG CANAL.						
	CEASED RUNNING.			COMMENCED RUNNING.				CEASED RUNNING.		
Name of supply-head used.	Date.	Depth of water at head. On gauge.	Depth of water at head. On Silt.	Date.	Depth of water at head. On gauge.	Depth of water at head. On Silt.	Name of supply-Head used.	Date.	Depth of water at head. On gauge.	Depth of water at head. On silt.
Bhadru ...	28th Oct.	...	...	No Record.						
,, ...	21st Sept.	4·2	1·4							
,, ...	22nd ,,	3·0	0·7							
Salolki ...	30th ,,	...	...							
,, ...	4th ,,	5·6	Not recorded.							
Bhadru ...	15th Oct.	2·2								
,, ...	30th Sept.	1·5	1·0	1st July	3·0	3·0	Tali Bagar	9th August	0·9	...
,, ...	10th Oct.	0·7	0·2	Not opened this year.					...	...
,, ...	20th Sept.	4·5	1·1	26th May	0·8	0·8	Tali Bagar	19th Sept.	0·3	...
,, ...	30th Nov.	1·6	0·2	23rd do.	0·4	0·4	Ditto	31st Aug.	0·1	0·1
,, ...	30th ,,	3·6	0·6	10th do.	0·6	0·6	Ditto	25th Sept.	3·2	3·2
,, ...	15th Decr.	1·3	1·3	1st April	1·0	1·0	Ditto	4th Oct.	0·8	0·8
Ghatta Pakni ...	19th Oct.	1·7	0·1	13th ,,	1·9	1·9	Ditto	16th Sept.	1·1	1·1
,, ...	10th ,,	0·4	0·4	21st ,,	0·5	0·5	Ditto	29th ,,	2·6	1·7
,, ...	12th ,,	...	...	16th ,,	1·3	1·3	Ditto	18th Aug.	...	...
,, ...	4th Nov.	...	...	12th May	2·2	2·2	Ditto	8th Sept.	...	...
,, ...	27th Sept.	0·3	0·3	15th April	4·3	4·3	Lalu Gudar	2nd ,,	3·3	3·3
Bhadru...	6th Oct.	...	...	1st June	0·5	0·5	Ditto	16th Oct.	...	...
Ghatta Pakni.	28th Sept.	...	...	25th April	0·2	0·2	Ditto	6th ,,	...	...
Bhadru	Closed on 31st Jany.	1·0	1·0	14th May	1·0	1·0	Ditto	5th ,,	0·1	0·1
,, ...	Closed on 12th Feb.	0·4	0·3	31st May	3·0	3·0	Ditto	21st Sept.	0·9	0·9
Lola ...	31st Oct.	0·1	0·1	6th ,,	0·8	0·8	Tali Bagar	7th Oct.	0·2	0·2

December 1869 when it had to be closed off for silt clearance.
31st January 1882, when it had to be closed off for silt clearance; again this canal
February 1883, when it was closed off for silt clearance.

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Result of the failure of *sailába*.

Sailába cultivation.

instances the abandonment of the greater portion of the well-lands in the *sailába* regions has followed on the failure of the *sailáb*. If there is one thing a Jat likes nearly as much as his buffaloes, it is a fine fat piece of *sailába* cultivation. The flood saturates the land and leaves a deposit of rich mud. When the river goes down and the sowing season comes, he ploughs up the land and puts in the seed, and then can rest himself till the crop is ripe. If the saturation has not been thorough and the winter rains are not good, the outturn will be poor; and it may be needful to work the well (if one happens to be near by) to bring the crop to maturity. The principal *sailába* crop is wheat. Very few *kharíf* crops are, from the nature of things, grown on *sailába* land. Sometimes the land remains under water so long that it cannot be cultivated in time for the next spring harvest. This occurs only in very lowlying spots. The floods of the Rávi are more beneficial than those of the Sutlej. In some instances land is found along the rivers sufficiently moistened by absorption, though not flooded, "to produce crops without any further watering." This absorption or percolation is called *ugaj*. It is *ugaj* that causes *kallar*.

Ugaj.

Báráni cultivation.

There is, properly speaking, no *báráni* or rain cultivation. In a few villages on the Lahore border there may be a little in good seasons. But there are numerous depressions in the ground into which the drainage water of the neighbouring high-lands pours, and in these depressions crops are grown without further irrigation. The area thus cultivated, and the quality of the produce, vary with the season. In autumn *til* and *moth* are usually sown; in spring, wheat and gram. The total rain cultivation within village limits was found in 1874 to be only 24,898 acres, or 6¾ per cent. of the cultivated area. But though the rain cultivation may be scanty and of no great value, it is an entire mistake to say that "drought, which, in regions that depend much on rain, forms the chief cause of distress, is not likely to affect materially the resources of this district." There are few districts in which drought is more mischievous. Cattle die of starvation; the survivors give scarcely any milk, or are unable to do any hard work. *Dhagge turde náhín*—the bullocks cannot get along—is the complaint of every cultivator. The result is that the cultivated area is about half what it is in a good year. Then the white-ants commit serious ravage when there is no rain; and the yield of the crops is poor. Besides, the unfortunate agriculturist, instead of growing food for himself, has to grow an extra quantity of fodder for his cattle, and support himself and family on what he can borrow or steal. Again, cultivation is so expensive and requires such large means that, if once beaten down, the cultivating classes find it much harder to recover themselves than in purely *báráni* districts.

Drought.

Agricultural implements and appliances.

Table No. XXII shows the number of cattle, carts, and plough in each *tahsíl* of the district as returned in 1878-79. The agricultural implements in use in the district are very fully described, and their prices stated at pages 95 to 98 of Mr. Purser's Settlement Report. They present few peculiarities; and it does not seem necessary to describe them here. The names of the principal implements which are constantly used in the following pages will be found in the glossary given as an Appendix to the Settlement Report.

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Agricultural operations.—Ploughing.

If possible in ploughing, several ploughs are brought together in the same field, as bullocks work better in company. The furrows are straight. It is quite an unknown thing to plough in curves. The ploughman should make his furrows as long as possible, according to the saying :—

Lamí usri háliyán, chhoti láwí hár.

"Long tacks for ploughmen, short for reapers." A plough will break up 4 *kanáls* of *sikand* or 5 *kanáls* of *gasra* in a day. On the 5th, 7th, 9th, 10th, 21st, and 24th of each month, the ground is supposed to be sleeping, and it is not considered lucky to commence any agricultural operations on these days; but, once begun on another day, there is no objection to going on, whether the ground is asleep or not. Sunday, Monday, and Thursday are the best days on which to commence sowing. Most crops are sown at once in the field in which they are to grow. They are sown either broadcast or with the drill. In unirrigated lands, such as *sailába* and *báráni* lands, and where there is much *kallar*, the drill is used. In *kallar* soil, the object is to get the seed below the mass of the *kallar*, which is found usually at the surface; in *sailába* and *báráni* lands the object is to get the seed into a stratum that will not soon dry up, and to shield it from the influence of the weather, which would often prove fatal to it in unharrowed and unrolled fields. Some crops are, however, always sown broadcast. When the seed is very small, like that of poppy and *til*, it is mixed with earth before being sown, as otherwise it would be difficult to distribute it equally. Cotton seeds are smeared with cow-dung to keep them from sticking together. Some crops are grown from seedlings *(paníri)* raised in nurseries: such are tobacco and pepper, and rice on the Deg. Sugarcane is grown from cuttings. In broadcast sowing the seed is held in one end of a sheet coming over the left shoulder; the other end, after passing under the right shoulder, is tucked in under the end on the left shoulder. Seed is not changed, and is said not to deteriorate. A drill will sow nearly one acre in the day.

Sowing.

Seed-grain generally borrowed.

Except in the canal villages, seed-grain is almost invariably borrowed from the *karárs*. They give the grain at the market rate of the day, or a little under it, and when the harvest is completed, they are repaid with interest in kind, at the market rate of the day, or somewhat over it. A *karár* gives, say, 8 *topas* of grain and debits the cultivator with one rupee. He charges 4 pies interest per mensem on this amount, a rate equal to 25 per cent. per annum; when Hár comes round, the *karár* makes up his account and finds, say, Re. 1-2-8 due to him. The market price is then 12 *topas*; so he takes 14 *topas* from the borrower in repayment of 8 *topas* he lent him eight months before.

Harrowing—clod-crushing.

After ploughing, fields that are to be artificially irrigated are harrowed. The clods are broken and pulverized and the surface smoothed down, at the same time that the seed is covered by means of the *sohága* or clod-crusher. This is drawn backwards and forwards by a couple or four pairs of bullocks, and answers its purpose very well. The man guiding the bullocks stands on the *sohága* to increase the weight brought to bear on the clods. Weeding is admitted to be a good thing, but is very rarely practised. Anything more disgraceful than some cotton fields can hardly be imagined; here and there

Weeding, hoeing.

a melancholy bush in a jungle of weeds. Weeding is done either with the mattock or the trowel. In the former case the ground is dug up as well as weeded. When the trowel is used, it is not uncommon to manure the roots of the plants at the same time. The former operation, which may be called hoeing, is known as *godi karna*, the later as *choki karna*.

Fencing.

Fields are not usually fenced near the village; and along roads where cattle are constantly passing, fences are made of branches of *kíkár*, *káríl* bushes, thorns,—in fact, of any thing that comes handy. In river villages fences of *pilchi* are not rare, where wild pigs are about. They are made by sticking stout *pilchi* branches into the ground and weaving smaller branches in among them.

Watching.—Scare-crows.

When young, some crops have to be protected against deer and other animals. For this purpose scare-crows, called *daráwa*, are put up. Bones, heaps of stones, strings fastened to sticks, are the usual scare-crows. But plastic art occasionally shows itself in the form of a straw man with one leg, and arms stretched out at right-angles to it; gram, poppy, melons, *charri*, and wheat have thus to be protected.

Watchmen.

When the crop is ripening, birds have to be kept away from it. In the case of *jowár*, *makki*, and *bájra*, a platform called *manna* is raised on stakes or fixed on the top of a tree, about 10 or 12 feet from the ground, or a mud pillar *(burji)* is raised to that height, and on it a watchman stands, armed with a *khabáni* with which he slings mud pellets made by himself at the birds. Each time the sling is discharged it causes a crack, and the watchman yells. One person can watch about two acres this way. Poppy is watched with the *khabáni*, but the watcher does not use any platform. Wheat, gram, barley, and *moth* are also watched, but not with the *khabáni*, nor is the *manna* in use. The watchman is provided with a long hempen rope, called *titála*, with which he goes wandering about the field. Every now and then he whirls it round his head and brings it down with a crack. One man can watch about 10 acres this way. The fields are watched only at night in Assú and Kátik, Phagan and Chetr. The watchmen are mostly Machhís and Mains. They are paid 3 *mans (topa)*, or about 2 *pakka mans* for each harvest.

Reaping.

Reapers are called *láwa*. They belong chiefly to the class of village servants. But they do not confine themselves to their own village. They go wherever they can get work. The usual pay is one *pái* (7 seers *pakka*) of grain, or 4 annas in cash per diem, with five sheaves. An ordinary reaper will cut down one *kanál* and a half in the day; a strong and practised hand will do as much as 2 *kanáls*. The *kanál* is half a rood. On an average, five men will cut down an acre in a day. Reaping is carried on during moonlight nights in the last few hours before day if the straw is very dry, as the moisture of the night air is supposed to strengthen the stalk and prevent the ears falling off. If clouds gather, great efforts are made to get in the crops, as hail is much feared at this season; but hail is very uncommon in this district. Sunday and Wednesday are lucky days to commence reaping. As soon as the grain is cut it is stacked. The reaper gets his share when the crop has been threshed and is divided. He is paid from the *dheri shámilát* or common heap.

Threshing.

There are several ways of threshing. The most common is to yoke a number of bullocks together, fasten the one at the left hand of the line to a post, round which the straw to be threshed is piled, and drive

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Threshing.

them round and round from right to left. This is known as *khurgah nál gáhna*, to thresh by the trampling of hoofs. Wheat and barley are first threshed with the *phalha* or threshing-frame. A pair of bullocks are yoked to the *phalha* and driven round the stake about which the straw is heaped; there may be several *phalhas* at work one after the other, but there are never more than four. One man is required with each, and a couple more with forks to throw the scattered straw back into the heap. One pair of bullocks with the *phalha* will thresh the produce of a quarter of an acre in a day. They will work 8 hours at a stretch, from 8 A. M. to 4 P. M., in the sun. Buffaloes are never used for threshing. When the wheat or barley has been threshed with the *phalha*, the straw is shaken up with the pitchfork and is blown on one side, while the grain falls to the bottom. Many unthreshed ears are found, and these and the grain are called *send*. They are again threshed *khurgah nál* without the *phalha*. Generally there are four bullocks in a row, and two rows may work at the same time. Each row is called *merh*. Only wheat and barley are threshed with the *phalha*. Rice, *jowár*, *chína*, *kangni*, *masar*, *charal*, and *zíra* are threshed by bullocks. The straw is then shaken and the grain winnowed. *Moth*, *mung*, *mah*, and *rawán* are treated at first as wheat is after the preliminary threshing, and, after being well shaken, are threshed by bullocks; gram is treated as wheat, but both threshings are by bullocks. *Til* is not threshed at all; the pods open and the grain is shaken out; *makki*, *saunf*, and *dhania* are threshed with sticks. *China* is often threshed in this way. A hole about 5 feet wide and 2½ deep is carefully plastered. The thresher takes a bundle of *chína* straw by the side where the roots were, and beats the ears against the side of the hole. Or else a piece of ground is swept and a log of wood put on it, against which the ears are beaten. One man is required with each *merh*, and there should be one man with a pitchfork for each heap. Eight bullocks will thresh two acres of gram, *jowár*, *charál* or *masar*, or one acre of rice, *chína*, or *kangni* in one day.

Winnowing.

Khurgah nál threshing and winnowing should be carried on, if possible, when there is a hot wind blowing and a fiery sun blazing over-head, as the thorough breaking up of the straw and separation of the grain are facilitated by these circumstances. There should properly be three persons winnowing. One fills the *chhajj* and gives it to another, who shakes out the contents to the wind; the third sweeps down from the heap forming below all the bits of stick, earth, straw and unthreshed ears, which are found in the heap after threshing.

Goblins.

From the time the grain is cut till it is finally weighed, the agriculturist has to be on his guard against *bhúts*, or demons and goblins. Fortunately they are of but middling intelligence, and their principal habits are well known, and so a goblin can be done with a little care. Till winnowing, all that need be done is to get the *mulwána* of the village to write a charm on a piece of paper, which is then stuck in a cleft piece of *kána* and put on the heap of grain and straw. This is paid for by a fixed fee called *rasúlwáhi*. Hindús are said to neglect this precaution, unless there is a *mulwána* in their village. Greater care has to be taken when winnowing commences. Friday is the regular weekly holiday of the goblins, and if any cultivator commences to winnow on that day he may expect to have his grain vanish. When

Goblins.

a fit time has come to winnow the grain, the cultivators and a couple of *chúhras* proceed in silence to the heap, and a couple of other men stay at a little distance to prevent any living thing approaching. Then winnowing is carried on vigorously: but no one speaks. In the evening, if the operation is not complete, the charm remains on one heap and the other is carefully pressed down with the *chhajj*. Goblins are always asleep at night, but any somnambulist is unable to do harm if this plan is adopted. When all the grain has been winnowed and the time comes to divide the produce, the same precautions are adopted. As the goblins are always asleep, or engaged on household duties at noon and in the evening, one of these hours should be selected for weighing the grain; this is done with the *topa;* or, if there is any hurry, the amount of a *chhajj*-full is ascertained, and the number of *chhajjes* in the heap is found. The weighman is provided with pieces of straw, one of which he puts down for each *topa* or *chhajj*. He must carefully avoid counting the number aloud. As soon as the quantity of grain has been ascertained, the goblins are powerless. It is not clear how far the people really believe in these matters, or how far they act up to their belief. But there are very few who do not believe most thoroughly in goblins being abroad, though they sometimes seem shy about admitting it.

Manure.

Manured land is commonly called *gorha*. But the proper name is said to be *niáín*. Some crops are always manured, such as tobacco and most vegetables; some are never manured, and some only occasionally. The total manured area at the Settlement of 1874 was only 16,158 acres, or 4·4 per cent. of the total cultivated land. Most of the manured area was under wheat. Manure is supposed to force the straw at the expense of the ear; and as plough-cattle have to be fed on green wheat, it is an advantage to have a thick crop of stalks. Manure consists of the excrement of cattle, horses, sheep, goats and human beings, and all sorts of refuse thrown on the village or well dung-heap; or of ashes, or of *kallar* obtained by scraping up the earth on the sites of old villages or brick-kiln, or where saline matter appears in streets and lanes. Buffalo's dung is considered the best of all manures, especially for tobacco, as it increases the size of the leaves. Droppings of sheep and goats are usually put in tobacco trenches. The tobacco acquires an acrid and pungent taste from this manure. The quantity of stable manure used depends much on a man's means. About 10 tons an acre is probably a fair average. From one to two *borás*, weighing about one maund and a half each, are applied to each *marla*; that gives from 240 to 480 maunds per acre. The dung-heap is removed twice a year; the cold weather heap in Phagan and Chetr, for tobacco, cotton, &c.; and the hot weather heap in Assú and Kátik, for wheat. Such manure is called *áhal*. A fire of cow-dung is always burning at each well. The ashes are used as a top-dressing for poppy, *zíra*, *methra*, and *ság*. Four *bárás* go to the *kanál*. A *bora* of ashes is reckoned at a quarter of a maund less than that of *áhal*. So nearly a ton and a half of ashes go to the acre. Ashes are called *suha*. *Kallar* is applied to tobacco, pepper, and cotton; and to wheat, barley, and onions. It is put to the roots of the first three, and scattered over the others; as regards wheat and barley, when they are about 18 inches high, about 24 hours before they are

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irrigated, generally in Mágh. Seven or eight *bords* are put on one *kanál*. The people collect the *kullar* themselves, and do not buy it. No attention is paid to the difference in soils in choosing what manure to apply. No manure is used but those kinds mentioned above.

Fallows—Rotation of crops.

There is no regular system of fallows or rotation of crops. No attempt is made by alternating the crops to refresh the powers of the soil. Land set apart for spring crops will be cultivated with the same crop year after year; similarly land appropriated for autumn crops. The only attempt at a rotation of crops occurs in the case of rice and gram. In rice cultivation the ground gets very little air, in gram cultivation a great deal: so gram succeeds rice, and rice gram, and the soil is benefitted. The leaves and roots of gram are said to be good for rice; and then, as the rice lands are moist, they can be ploughed up for gram without any further trouble as regards irrigation. Manured lands may be cropped harvest after harvest till the effect of the manure is exhausted, but most land is cropped only once in the year; after some time the land gets an extra fallow. Forced fallows, owing to want of cultivators to till the land, are in most places only too common. Owing to some crops not being off the ground when the time for sowing others arrives, the latter cannot immediately follow the former. For this reason, excepting cotton, *kangni*, rice, *sawànk* and *makki*, none of the *kharìf* crops are followed by *rabi* crops; and the same remark applies, *mutatis mutandis*, to *chìna*, as a crop. Cotton may be followed by *methra* and *sinji;* rice and *sawànk* by gram, *charal*, *masar* and coriander; and *makki* by all the *rabi* crops. *Kangni* is held to exhaust the soil, so no *rabi* crop follows it. As regards the spring crops, *sarhon*, poppy, tobacco, onions, melons, *methra* and *sinji* may be followed by any autumn crop; wheat and barley by cotton, *jowàr*, *moth* and *til;* gram and coriander by rice, *sawànk*, and *màh ; zìra* by *moth*; *charal* by *sawànk*, *màh*, and *mùng ;* and *masar* by almost all the autumn crops.

Manner of laying out land at a well.

At a well, fully yoked, irrigating about 25 acres in the year, the land will be laid out somewhat in the following fashion. Three-quarters of an acre of early *chìna* or *charri* will be sown to bring the cattle over the end of the hot weather and commencement of the rains. Half a *kanàl* will be put down under vegetables of sorts. The regular autumn crops will be an acre, or an acre and a half of cotton; the same of *charri ;* one acre of *chìna* or *kangni ;* half a *kanàl* of pepper and 2½ to 3½ acres of *jowàr*. The regular spring crops will be 2½ acres of turnips or *sarhon ;* 15 acres of wheat; and one *kanàl* of tobacco. This scheme gives 6½ *kanàls* of intermediate crops ; 6 *ghomàos* (or acres) 4½ *kanàls* of autumn crops; and 17 *ghomàos* 5 *kanàls* of spring crops. Often no *chìna* or *kangni* is sown in the autumn, and sometimes a couple of acres of barley may be put down in place of as much wheat. The crops invariably cultivated are cotton and *jowàr* in the autumn, and turnips and wheat in the spring. On canal-irrigated lands there is no custom as to what crops should be sown, or as to the proportion of each to the others; and cultivation on *sailàba* lands depends on the character of the inundation.

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Agriculture and Arboriculture.

Principal staples.

Table No. XX shows the areas under the principal agricutural staples. The remaining acres under crop in 1880-81 and 1881-82 were distributed in the manner shown in the margin. The approximate area under the principal crops as ascertained at last Settlement is given below, as the figures are probably far more accurate and were typical of the normal distribution of crops than are those of Table No. XX :—

Crop.	1880-81.	1881-82.
Kangni ..	8,200	9,032
China ..	2,526	3,021
Mattar ..	12,488	13,537
Mash (urd) ..	2,109	3,382
Mung ..	1,278	1,436
Masur ..	3,642	3,716
Arhar ..	294	..
Coriander ..	217	1
Chillies ..	185	146
Other drugs and spices ..	225	1,136
Mustard ..	21,619	21,375
Til ..	3,552	15,137
Tara mira ..	21	18
Hemp ..	57	147
Other crops ..	1,264	13,718

Autumn crops.	Area in acres.	Spring crops.	Area in acres.
Jowar and *makki* ..	44,539	Wheat ..	149,936
Cotton ..	31,842	Gram ..	29,778
Rice ..	18,682	*Sarhon* and turnips ..	14,111
Mah, *moth*, and *rawan* ..	8,167	Barley ..	13,408
Til ..	6,418	*Charal* and *sinji* ..	9,003
Mung ..	1,185	*Goji* ..	4,554
Sugarcane ..	134	*Masar* ..	4,278
		Tobacco ..	1,143
		Methra ..	757
Autumn and Spring crops.		*Berara* ..	401
		Zira ..	318
China and *kangni* ..	18,431	Poppy ..	144
Melons and vegetables ..	6,661	Pepper ..	80

About 3 or 4 per cent. of the area under *jowár* and *makki* was occupied by the latter crop; *jowár* included *charri*. Of the 8,167 acres under *máh*, *moth*, and *rawán*, about three parts were under *máh*, two parts under *moth*, and one under *rawán*. Two-thirds of the area under vegetables and melons were planted with vegetables, and one-third with melons. *Chína* and *kangni* were grown in nearly equal proportions. Scarcely any *sinji* was cultivated.

List of principal crops.

In the following list the names in English and vernacular of the crops principally grown are given. The botanical names usually employed are added :—

English name.	Vernacular name.	Botanical name.
	Autumn Crops.	
Rice ..	*Dhan* or *munji* ..	*Oriza sativa.*
Great millet ..	*Jowar* ..	*Sorghum vulgare*
Spiked millet ..	*Bajra* ..	*Penicellaria spicata.*
Italian millet ..	*Kangni* ..	*Penisetum Italicum.*
Maize ..	*Makki* ..	*Tea mays.*
Sesamum ..	*Til* ..	*Sesamum orientale.*
..	*Moth* ..	*Phaseolus acontifolius.*
..	*Mung* ..	*Phaseolus mungo and Ph. max.*
..	*Mah* ..	*Phaseolus Roxburghii.*
Cotton ..	*Kapah* ..	*Gossypium herbaceum.*
Hemp ..	*Sann* or *sanni* ..	*Crotalaria juncea.*
..	*Sankukra* or *sinjubara.* ..	*Hibiscus cannabinus.*
Red pepper ..	*Lal mirich* ..	*Capsicum fastigratum.*
Sugarcane ..	*Paunda* ..	*Saccharum officinarum.*
Mellons, &c. ..	*Kharbuza, &c.* ..	*Cucumis mels, &c.*
	Autumn and Spring Crops.	
..	*China* ..	*Panicum miliaceum.*
Beans ..	*Rawan* ..	*Dolichos sinensis.*

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List of principal crops.

English name.	Vernacular name.	Botanical name.
	Spring Crops.	
Wheat ..	*Kanak* ..	*Triticum vulgare, T. durum.*
Barley ..	*Jau* ..	*Hordeum hexastichum.*
Gram ..	*Chhola* ..	*Cicer arietinum.*
.. ..	*Charal* ..	*Lathyrus sativus.*
Lentils ..	*Masar* ..	*Ervum lens.*
? ..	*Methra* ..	?
Turnips ..	*Gonglu* ..	*Brassica rapa.*
Rape ..	*Sarhon* ..	*Sinapis juncea.*
Tobacco ..	*Tambaku* ..	*Nicotiana tabaccum, &c.*
Poppy ..	*Post* ..	*Papaver somniferum.*
.. ..	*Saunf* ..	*Falniculum vulgare.*
Cummin ..	*Zira* ..	*Cuminum officinale.*
Vegetables ..	*Tarkari* ..	

In autumn, *guár (Cyamopsis psoraloides)*, *mándwa (Eleusyne caracona)*, and *sawánk (Oplismenum frumentaceum)*, all three pulses; and hemp—*i.e.*, *bhang (Cannabis sativa)*, and senna, are grown, but very rarely. In spring *tárá míra (Brassica erucal)*, *sinji* or trefoil (*medicago ?*), *dhanián* or coriander *(Coriandrum sativum)*, and *ajwáin (Ptychotis ajwáin)*, are occasionally grown.

Time of sowing and cutting crops.

In the following list the times of sowing and cutting the principal crops are noted :—

Crops.	Time of sowing.	Time of cutting.
	Autumn Crops.	
Rice ...	Middle of April to middle of May in beds. Transplant second-half of July. Broad cast from middle of May to end of July.	October.
Jowàr ...	Middle of June to middle of August ...	November.
Bàjra ...	Do. do. ...	Middle of October to middle of November.
Kangni ...	Middle of June to middle of July ...	Spetember.
Maize ...	Middle of June to end of August ...	Middle of September to middle of November.
Til ...	Middle of July to middle of August ...	November.
Moth ...	Do. do. ...	Do.
Múng ...	First half of August ...	Do.
Mah ...	Second half of August ...	Do.
Cotton ...	Middle of April to middle of June ...	Middle of September to end of December.
Sann or *Sanni* ...	End of May to middle of July ...	Middle of October to middle of December.
Sankúkra ...	Middle of February to middle of March, and middle of April to middle of June	Middle of September to middle of November.
Red pepper ...	In beds middle of February to middle of March. Transplant about middle of June.	Middle of October to middle of January.
Sugarcane ...	Middle of February to middleof March...	November to middle of January.
Melones, &c. ...	Middleof February to middle of March...	Middle of April to middle of September.
	Middle of April to middle of May, if sown with cotton.	Middle of July to middle of August if sown with cotton.

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Time of sowing and cutting crops.

Crops.	Time of sowing.	Time of cutting.
	Autumn and Spring Crops.	
China (1) ...	Middle of February to middle of March.	June.
(2) ...	Middle of August to middle of September.	December.
Rawán ...	Middle of February to middle of March	Middle of April to middle of June.
	Middle of April to middle of June ...	Middle of August to middle of October.
	Spring Crops.	
Wheat ...	Middle of October to middle of December	Middle of April to middle of May.
Barley ...	October and November ...	First half of April.
Gram ...	September and first-half of October ...	Do.
Charal ...	Middle of September to middle of November.	Do.
Masúr ...	Do. do. ...	Do.
Methra ...	Middle of September to end of October...	Middle of March to middle of April.
Turnips ...	Beginning of September to middle of October	January, February, and March.
Sarhon ...	Do. do. ...	First-half of April.
Tobacco ...	Second-half of October in beds. Transplant from middle of February to middle of March	June.
Poppy ...	October ...	First-half of April.
Saunf ...	Middle of September to middle of October ...	First-half of April.
Zira ...	Middle of October to middle of January	Middle of March to middle of May.
Vegetables ...	September, October, and first-half of November	Middle of December to middle of April.

The spring vegetables are turnips, carrots, onions, radishes, *methi*, and *pálak*.

Manner of cultivating the various staples.

In the following statement is shown whether the crops are grown on canal, well, *sailába*, or *báráni* land, whether they are manured or not, and the manner of propagation adopted, whether by seed sown broadcast or by drill, or by transplanting seedlings or by cuttings. An asterisk in any column implies that that column refers in the affirmative to the crops opposite which the asterisk is placed. Thus an asterisk opposite rice in the column "canal irrigated land" means that rice is grown in such land. The spring crops can, in the canal tracts, generally get one watering from the canal; but only such as can be brought to maturity by canal irrigation are shown as grown on canal land. "R." stands for "rarely."

Manner of cultivating the various staples.

Autumn Crops.

Crops.	Class of land.				Manured or not.			How sown or propagated.			
	Canal irrigated.	Well irrigated.	*Sailàba.*	*Bàràni.*	Always.	Sometimes.	Never.	Broadcast.	Drill.	Transplanted.	Cutting.
Rice ...	*	...	*	...	...	...	*	*	*	*	...
Jowàr ...	*	*	...	...	...	...	*	*	...	...	...
Bàjra ...	*	*	*	*	...	...	*	*	...	...	...
Kangni ...	*	*	...	...	...	*	...	*	...	...	...
Maize ...	*	*	...	...	*	...	...	*	...	...	...
Til ...	*	...	...	*	...	...	*	*	...	...	...
Moth ...	*	...	...	*	...	...	*	*	...	...	...
Múng ...	*	...	*	*	...	...	*	*	...	...	...
Màh ...	R	...	*	...	...	...	*	*	...	...	...
Cotton ...	*	*	...	...	...	*	...	*	...	..	...
Sann ...	*	*	?	...	...	...	*	*	...	...	...
Sankukra	*	*	?	...	...	..	*	*	...	...	...
Redpepper	*	*	...	...	*	...	...	...	...	*	...
Sugarcane	...	*	...	...	*	...	...	...	...	...	*
Melons, &c.	*	*	*	...	...	...	*	R	*	...	...

Autumn and Spring crops.

Crops.	Canal irrigated.	Well irrigated.	*Sailàba.*	*Bàràni.*	Always.	Sometimes.	Never.	Broadcast.	Drill.	Transplanted.	Cutting.
China ...	*	*	...	...	...	*	...	*	...	...	...
Rawàn ...	R	...	*	...	...	...	*	R	*	...	...

Spring Crops.

Crops.	Canal irrigated.	Well irrigated.	*Sailàba.*	*Bàràni.*	Always.	Sometimes.	Never.	Broadcast.	Drill.	Transplanted.	Cutting.
Wheat ...	...	*	*	R	...	*	...	*	*	...	...
Barley ...	...	*	*	R	...	*	...	*	*	...	...
Gram ...	*	...	*	...	...	...	*	*	...	...	...
Charal ...	*	...	*	...	...	...	*	*	...	...	...
Masar ...	*	...	*	...	...	...	*	*	...	...	...
Methra ...	...	R	*	...	...	...	*	*	...	...	...
Turnips ...	...	*	*	...	...	*	...	*	...	...	...
Sarhon ...	...	*	*	...	...	*	...	*	...	...	...
Tobacco ...	...	*	...	...	*	...	...	...	...	*	...
Poppy ...	...	*	...	...	*	...	...	*	...	...	...
Saunf ...	...	*	...	...	*	...	...	...	...	...	...
Zira ...	...	*	...	...	...	...	*	*	...	...	...
Vegetables	*	*	*	...	*	...	...	*	*	...	...

Rice grown on the Deg is generally transplanted. *Chari*, which is *jowár* grown for fodder, is often manured. *Bàjra* is scarcely known here. *Saunf* and *zíra* too are rare. *Kangni* is grown in the spring also occasionally. The seed of *til*, *sarhon*, poppy, and often of turnips, is mixed with earth before being sown. Cotton should be manured if possible; so should turnips be, if grown with well-irrigation. Wheat and barley are sown by drill on *sailàba* and *bàràni* land.

Diseases of crops.

Some account of the diseases to which crops are liable will now be given. *Kunghí* is rust. It attacks wheat, and, according to some, *chara* and *masar*. All agree that barley is not attacked by it. This disease may occur at any time from the end of the year till the corn is cut. It is supposed to be caused by a continuance of cloudy weather, without wind, sun, or rain. It occurs chiefly to wheat sown late. Sunshine is the best remedy: and as the west wind disperses the clouds, it is useful, but in itself it possesses no

virtues. If the disease attacks the crops before the grain has set, the ears are empty. If after, the grain is small.

Kadur.—An orange-coloured rust settles on the leaves and stalk, which comes off on the plant being brushed against. The grain is not discoloured. The leaves are attacked first.

Khudru.—This is another disease of wheat. Only a plant here and there is injured; the grain becomes small, round, and black. The disease commences in Chetr when the ears are first appearing. The cause is not known.

Valài and *kundi* are names for the same disease of wheat. The stalk grows spirally like a corkscrew. If the ear has formed, it is also twisted in coils. No grain is formed. Only a few plants are attacked. *Valài* is used in respect of the stalk and *kundi* as regards the ear. *Valài* occurs in Máh and Phagan, and *kundi* in Phagan and Chetr.

Dhanak and *jabdar* or *gandel* are said to be wheat that has deteriorated owing to some disease. *Dhanak* seems to be a sort of wild oats, and *jabdar* or *gandel* simply a weed which produces a small brownish yellow grain, not unlike that of *chìna* in size and shape.

Tela is said to attack all crops, especially tobacco and melons in Jeth; wheat and *sàg* (greens) in Poh and Mágh; *jowàr, til, chìna,* cotton, *mùng* and *màh* in Asu and Kátik. Wheat is not, however, injured by it; but generally the plant attacked dries up, and an oily liquid is found on it. This is caused by a small yellow-winged insect. The only remedy is rain, which is supposed to wash off the oil. A full account of the disease is given on page 487 of the "Hand-book of the Economic Products of the Punjab." This disease is also called *saresa* from *sarés*, glue; as *tela* is from *tel*, oil.

Hadda is a disease to which melons, gourds, and that class of plants are liable. It occurs in Jeth and Visákh, and is supposed to be caused by excessive heat and dryness. The plant withers away. The remedy is to burn bones of camels to windward of the field, so as to get the smoke to pass over the plants. The name of the disease is derived from this remedy.

Bhakri attacks *jowàr* in Bhádron and the beginning of Asu. It is attributed to excessive dryness; and some say a sort of spider does the mischief; a web, like that of a spider, forms across the top of the plant and prevents the ear forming. Rain is beneficial.

Tukmàr or *tuklamàr* occurs to *jowàr* at the end of Asu and beginning of Kátik. It is attributed to excessive rain and the east wind. An insect eats the stalk at the place where the ear is joined on to it; the ear is thus destroyed. Cattle eat the stalks. The stalk just below the ear is called *takka* or *tukla* or *tùla*; the name of the disease is derived from the name of the stalk and *màrna*. *Tukka* is said by the dictionary to be a corn-cob. In *tùla* which attacks *jowàr* at the same time as *tukmàr*, the ear does not form, but in its place a number of shoots are thrown out. The cause is not known. Only a few plants are attacked; the stalk is unusually sweet and is used as fodder.

Kàni or *kangiàri* attacks barley, and, according to some, though others deny it, wheat, in Phagan and Chetr, and cotton and *jowàr* in Asu and Kátik. The grain of wheat, barley, and *jowàr* turns

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Diseases of crops.

black and is just like soot. *Jowàr* grains become long and pointed. In cotton the balls do not open at all ; if they do, there is nothing inside but a little yellow lint. The seed is affected like that of cereals. This disease seems caused by excessive rain. This disease seems smut, and smut undoubtedly attacks wheat. The names of the diseases are derived by the people from *kàna*, one-eyed, because some grains are sound and some diseased ; and from *kàl*, famine, and *angiàri*, a small coal.

Bàhmni or *chittri* occurs to *moth*, *màh* and *mùng*, and some say to melons. It occasionally attacks *sann*. It appears in October. White spots (*chitti*) appear on the leaves. No grain forms. Only plants here and there are affected. The spots in the case of *bàhmni* seem larger than in *chittri*, but otherwise there is no difference. The name *bàhmni* comes from the custom of Brahmins to adorn themselves with white spots of *sandal*. The cause of the disease is unknown.

Batur attacks *moth*, *màh*, *mùng* and *til* ; the first three in Asu and Kátik, and the last also in Bhádron. It generally occurs when there has been much rain. The plant shrivels up and the pods do not fill. The whole field is not attacked, but only scattered plants.

Mechanical injuries to crops, and agents of such.

Most of the above affections may be called diseases. The following are more mechanical agents in causing injury than diseases. *Wa:* wheat and barley are damaged in Chetr by heavy wind, *hawa* or *wa*. *Khewan* or *lishk* is lightning. All conspicuously flowering plants are affected by violent lightning when in flower. The flowers drop off and no pods form, or the grain gets black, as in the case of *zìra* and *saunf*, if it has set. One side of a field may be injured and another escape. The *sohànjnà* or horse-radish tree is similarly affected. *Kummi* occurs to *jowàr*, *chìna*, and *kangni*, and some say to rice and melons. *Jowàr* and *chìna* are attacked in Asu and Kátik, and *kangni* in Bhádron. A small-winged reddish insect, about the size of a grain of *jowàr*, appears and regales itself on the pollen (*bùra*), or, according to some, on the ear and stalk, just below the ear (*tukka*). Of course the ear does not mature. This insect does not come in swarms. Very little damage is done. *Kummi* means a tortoise. The insect is round-backed like a tortoise ; hence the name. It seems a sort of ladybird. *Mùla* or *ukhera* is an insect that attacks the roots (hence the name) of tobacco in Visákh and Jeth, of cotton and pepper in Asu and Kátik, and of gram in Phagan and Chetr. It is said to be a kind of ant with a white body and red or black head. It is not the same as *síonk*, or the white ant, which eats up everything it comes across ; for *mùla* occurs on flooded lands, and white ants are destroyed by irrigation. White ants do much mischief in dry years. *Sundi* is a green caterpillar that attacks gram and *charal* in Phagan and Chetr. It gets inside the pod and eats up the grain. *Toka* appears to be a grasshopper of a greyish-brown colour, which eats up the young shoots of all plants. *Jackals* have a great partiality for melons and other gourds They also get *makki* and *jowàr* stalks between their legs and walk them down, when they feast on the cobs. *Rats* are not strong enough for that ; they nibble at the bottom of wheat and barley stalks when the grain is forming. Down come the stalks, and the rats eat the young ears.

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Mechanical injuries to crops, and agents of such.

They also injure sugarcane and rice, if there is no water about it. *Parrots* are fond of pepper pods, poppy-heads, *jowàr* ears, and *sarhon*. *Crows* devote themselves to *jowàr*, *makki*, and germinating wheat. *Deer* (*hiran*), *porcupines* (*seh*), and *hares* (*saiyar*), eat all green crops. Pigs on the rivers destroy everything they can. *Wild cats* (*bàr-billi*) are particularly fond of maize cobs. But they and porcupines are rare. Not so *tilyar*. *Tilyars* are the birds called *goliya* in Hindustáni. They are very common and fly in flocks. Their breast and neck are brown, otherwise their colour is black. According to popular report, they appear in Asu and Kátik, by which is probably meant that they then first attract notice ; and in Chetr and Visákh their colour changes to black with brown spots. They eat most fruits and seeds, such as those of the *karìl*, *wan*, *ber*, and *pìpal*, and of *jowàr* and *bàjra*. But in return they devour grasshoppers (*toka*) and locusts. It may be mentioned here that fogs (*kuhìr*) are considered rather good for crops ; and if rain comes on while the fog is on the ground, the result is as if land had been manured.

Remarks concerning individual crops—Rice.

The method of cultivating the principal crops, with some remarks concerning them, will now be stated. Rice is usually called *dhàn* on the Sutlej and *munji* on the Deg. In Dipálpur the seed is soaked in water till it germinates, and is then sown broadcast ; twenty-four seers of seed go to the acre. The ground is watered and ploughed twice. It is then watered again and ploughed up twice, and harrowed while under water. By this process, called *rafad karna*, the water gets thick with mud ; the seed is then flung on it. The particles of earth held in suspension attach themselves to the seed and sink to the bottom with it. On the Deg a bed is prepared, and about two seers of seed to the *marla* scattered over it. This is covered with manure and irrigated for about a month till the plants are a cubit high, when they are picked out and transplanted. The rice field is thus prepared. Water, plough twice, and harrow. Water again, plough and harrow twice while field is under water. Then plant the seedlings. The land should after planting be kept always under water. By the Deg plant 16 seers of seed go to the acre, as one *marla* of seedlings suffices for one *kanàl* of the rice-field. Seven kinds of rice are cultivated—*safeda*, *shakarchìni*, *rattùa*, *sohanpatar*, *nagoi*, *khasru*, and *muhskì*. *Safeda*, a beardless variety, with white ear and stalk of medium thickness, is the only kind extensively grown. If rice is watered just before cutting, the weight of the grain is supposed to increase ; but the grain breaks in husking. So people water the fields of which they intend to sell the produce, and not those they intend for their own use. Rice is reaped when the ground is dry, bound in sheaves and stacked. It is threshed by bullocks without the *phalha*. After separating the straw and grain, the latter is husked in a mortar by Changars, a wandering tribe stated by Cunningham (" History of the Sikhs, " page 9) to be the same as the Kanjars of Dehli ; and probably the same as the Gypsies of Europe. They are paid 2 pies for every seer of cleaned rice, or 6 annas and 8 pies per *man*. Two men can clean from one *man* to one *màn* and a quarter in the day. Rice husks are not specially applied to rice fields as manure. They are eaten by the Changars' donkeys, burnt or thrown away as refuse ; nearly one-third of threshed rice is husk, so

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Rice.

three sers of threshed rice yield only two sers of cleaned rice. The straw of rice is called *pràl* or *pràli*. It is considered warm and good litter, but inferior fodder, being devoid of strengthening properties. It is given to cattle mixed with green fodder. Rice does not seem to suffer from any disease. A plant called *dhiddan* is found in rice fields. The grain is red. The plant is not altogether unlike wild *sawànk*. It is picked out and given to bullocks as fodder. Some imagine this to be rice which has deteriorated owing to disease.

Jowár; Charri.

Great millet is sown either for the grain, in which case it is called *jowàr*, or for fodder, when it is known as *charri*. The best soil for both is good *gasra*. The ground is first watered, then ploughed twice and harrowed. Next the seed is sown broadcast; the ground is ploughed again twice and harrowed once. Beds are formed, and the plants which come up in about six days are watered every three weeks. Good cultivators will harrow after each ploughing. Twelve sers of seed are sown for *jowàr* and 40 for *charri*, in each acre. *Charri* is used as green fodder; it is not dried and stored. It is sown either at the same time as *jowàr* or in Visákh. In the latter case it is cut from the middle of Jeth and given to the cattle mixed with *tùri*. About six weeks' supply is grown. *Jowàr* plants are tied together like sugarcane to keep them from being blown down. They are cut down and placed in stocks with the ears pointing upwards. Then the heads are cut off and threshed by bullocks without the *phalha*. *Jowàr* stalks are known, whether green or dry, as *tànda*: when green they are sometimes eaten as sugarcane. They are the best fodder obtainable, and are worth from Rs. 12 to Rs. 16 per acre. A bullock will eat about twice as much *jowàr* stalks when dry by weight, as it will of broken wheat straw (*tùri*); say 30 sers per diem. *Jowàr* husks are eaten by bullocks. All *jowàr* stalks are *turon* or *kàngar*; names derived from *tar* moist, and *kàna*, the stalk of *sarr*, which is useless for fodder. *Turon* stalks are juicy and good fodder; *kàngar* stalks are dry and useless. The rib of a leaf of *turon* is green; of a leaf of *kàngar* white. The seed of a *kàngar* plant is said to produce *kàngar* plants. Nine kinds of *jowàr* are commonly known, but only four are generally grown. The four are *chichka*, *rattar*, *bagar*, and *gummi*. The other five are *jhandi*, *chùhri*, *hàji kubi*, *makhan*, and *ramàk*. They are mostly grown for the purpose of being roasted in ashes and eaten. The stalk of *chichka* is coarse and liable to become *kàngar*; so this variety is not usually sown for *charri*. The ear of *chùhri* is black; of *rattar*, red; of *makhan*, red and white; and of the other varieties, white. *Kàngar* stalks are, no doubt, caused by some disease. *Jowàr* is attacked also by *tela*, *bhakri*, *tukmàr*, *tùla*, and *kangiàri*.

Bájra.

Bàjra is very little grown, but it seems to be making some way in popular favour. It is cultivated as *jowàr*: water, plough twice and harrow, then sow broadcast, and plough and harrow as before. Make beds and irrigate about every three weeks. The field should be weeded in Asu. The crop is very inferior to *jowàr*, as the stalks are worth very little. They are almost useless as fodder. This is the reason it is so little grown, and not, as the people say, because the birds won't leave them any share of the grain.

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Kangni.

Kangni is extensively grown. The proper mode of cultivation seems to be to plough up the land in the cold weather. When the seed time comes, it should be ploughed up three or four times, and harrowed each time but the last. The seed is then sown broadcast, and the field smoothed down. Some plough once after sowing. The crop is irrigated five or six times. About 14 sers of seed go to the acre. It is a good thing to manure the ground for this crop, which is considered an exhausting one. Good *gasra* is the best soil for it. *Kangni* is threshed with a stick, or trampled out by bullocks without the *phalha*. Two varieties of this crop are recognised—*kangan* and *kangni*; but they differ only in size, as *kangan* is larger and coarser than *kangni*. *Kangan* is rare. The straw of *kangni* is called *prál* or *práli*. It is not broken up like *túri*. It is considered good strengthening food. The grain of *kangni* is used as an article of diet. The grain of dried *kangni* is to the straw, by weight, nearly as 27 to 73. Plants of *tándla*, wild *sawánk*, and *kúra* are very common in *kangni* fields; and the green seeds of the first two and the black seeds of the last are generally found mixed up with *kangni* grain. *Kangni* is subject to the disease *tela*, and is attacked by *kummi*. It is very rarely sown in the spring, in Phágan. It ripens then in four months.

Maize.

For maize or *makki*, the ground should be, if possible, manured. It is then watered and ploughed and harrowed three or four times. The seed is sown broadcast, at the rate of 12 to 18 sers to the acre. The ground is next ploughed up twice and harrowed once and laid out in beds. One month after sowing the field is hoed and weeded, and again if the weeds become thick, it is very necessary to keep the ground moist; and so it is said to be irrigated every fifth day, but the number of waterings is álmost always exaggerated in the accounts given by the people. The stalk of maize is called *tánda*, and is good fodder when green, especially when given with the cobs, but bitter and useless when dry, except mixed with green food. Maize suffers from *tela* and, some say, *bhakri* and *báhmni*. But jackals and crows are its most dangerous enemies. Two varieties are known—the *doában* and *desi*. The former grows as tall as *jowár*; produces two, sometimes three, cobs on one stalk; the stalk is coarse and of a brown colour above the roots; the leaves are broad, and the grain coarse, and of a yellow colour. The grain of the *desi* is small and white; the plant is from 4 to 4½ feet high, and of a straw colour just above the roots. It rarely produces more than one cob on each stalk. The yield of the *doában* is more than that of the *desi*; but it takes three months for the former to ripen, and only 2½ for the latter.

Til.

Til is often sown with *moth* and *múng*, or *moth* alone; sometimes with *jowár*. It is essentially a rain crop, but is grown on canal-irrigated lands sometimes. After rain, plough, sow broadcast, mixing seed with earth if not sown with some other crop, and plough again. Sometimes the seed is simply thrown on the fallow ground and ploughed in. Two sers of seed go to the acre. *Til* plants should not be close together, according to the verse :—

Jau wirle, til singhne, mahín ját kat;
Náhán dhíyán jain; cháron chaur chopat.

" When barley grows scattered, and *til* close together, and the buffalo brings forth a male calf, and sons' wives give birth to daughters—all

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Til.

four are utterly bad." Only one kind of *til*, the black, is known. The plant is affected by *tela* and lightning. When the crop is cut, the stalks are placed in a circle with their tops pointing inwards, and are left there for a fortnight with a weight upon them. This heatens and softens the pods. Then the stalks are placed on the ground with their tops pointing upwards, leaning against each other, or a straw-rope. The action of the sun causes the pods to open, when the grain is shaken out on a cloth. Fifteen sers of *til* seed produce 6 sers of sweet oil. *Til* stalks, when dry, are used for fuel. They give forth a fierce flame.

Moth.

The cultivation of *moth* is very simple. The seed is thrown on the fallow ground and ploughed in. Occasionally the ground is ploughed up before sowing. *Moth* is often sown with *til* and *múng;* 8 to 16 sers of seed are sown on the acre. On *báráni* lands the smaller quantity would be used, and on canal lands the larger. There are three kinds of *moth : bagga, jhijru*, and *garára.* The first grows up straight; the leaves are not indented; it throws out no runners; and the grain is white. The other two kinds throw out runners; the leaves of *jhijru* are indented; those of *garára* are not. The grain of *jhijru* is white with black spots; of *garára* black with white spots. The three kinds are found growing together or alone. The plant is left to dry after being cut; then collected and beaten and shaken with the tringal, and the stalks and leaves thrown aside; the rest of the plant is then threshed by bullocks. The stalks and leaves are excellent fodder for all cattle. It is broken up like *túri. Moth* suffers from *tela, báhmni*, and *batúr.*

Múng—Múngi.

Múng is sown very much like *moth.* It is thrown broadcast on the field and ploughed in; some plough before sowing and give two ploughings after sowing. The amount of seed is from 8 to 16 sers per acre. This crop is very commonly grown on *sailába* lands. There are two varieties of *múng, viz.*, the black *múng*, called also *bharung* on the Rávi towards Lahore; and the green *múngi*, which is that found on the Sutlej. *Múngi* again is divided, according to the colour of the grain, into green and yellow. It is often sown with *jowár* or *til*, and sometimes with *máh.* It is threshed like *moth*, and the stalks and leaves broken up are used as fodder. It is attacked by the same diseases as *moth.*

Máh.

Máh is cultivated in the same way as *múng;* the usual quantity of seed to the acre seems to be 16 sers. Two kinds are known, the black or *bharung*, and the green or *kachúa.* The former grows as a creeper along the ground, the latter upright. The pods of *bharung* are blackish-purple, long and thin, those of *kachúa* greenish-yellow, short and thick. The grain of the one is green, of the other black. The *dál* of *kachúa* is larger, has a better taste, and requires less time in cooking than that of *bharung;* hence it sells at 3 or 4 sers the rupee dearer. *Máh* and *rawán* are sometimes grown together. It is usually grown on *sailába* land. It is not eaten raw by human beings, and in that respect differs from *múng.* It is threshed as *múng;* and is a good fodder for all cattle, and especially so for camels.

Cotton.

The approved way of cultivating cotton is to manure the ground, and plough it up three times before the cold weather, during which

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Cotton.

it lies fallow. In Visákh or Jeth the field is watered and ploughed twice and harrowed once. The seed is then sown broadcast at the rate of 8 sers to the acre, the seeds being smeared with cow-dung. The field is then ploughed and harrowed once, and beds are formed. After one month the crop should be watered, and afterwards once every fortnight or three weeks, till the plants flower, when water should be given every week. When the plants are a span high, the field ought to be weeded, and again when the weeds grow high after the rains have commenced. In well-lands *kallar* is often applied to the roots on this occasion. If necessary, a third weeding takes place. The weeding may be either with the *ranba* or *kahi*. The flowers form early in September, and the balls after the middle of that month. Cotton is picked chiefly by women, who are paid in kind, getting a smaller or larger share of what is picked, according to the smallness or largeness of the picking. This share ranges from $\frac{1}{4}$ to $\frac{1}{24}$, and averages $\frac{1}{8}$ to $\frac{1}{10}$. It is determined on the principle that each picker should get as wages one ser of raw cotton per diem. Most cotton is, however, not manured; and generally people plough only when about to sow; and many cotton fields look as if they were never weeded at all. Sometimes cotton is cut down in the cold weather and the roots are left in the ground for another year, when the plant grows again and yields a second crop; but the outturn is inferior. A plant thus cut down is called *mudhi*. It is well to sow cotton early, so as to escape the frosts of next cold weather. Two kinds of cotton are known, the *hazára* called also *narma*, and the *kapáh* or ordinary cotton. The flower of *hazára* is red, and the leaves have a reddish tinge. A field of it looks as if withered. The lint is finer and longer than that of *kapáh*. The latter has white or yellow flowers. *Hazára* produces less than *kapáh*, and on this account is not commonly sown by itself. It is said to have been introduced by Major Marsden. Uncleaned cotton contains about 29 parts by weight of seed and 11 parts of fibre. The cultivator retains what cotton he wants, and sells the rest after having had it cleaned. He keeps the seed for his cattle. Cotton is mostly cleaned by *karárs*. They are paid one anna for each ser of clean cotton they turn out, and can earn four annas a day at this rate.

***Sann* or *sanni*: *sankukrá* or *sinjúbára*.**

Sankukrá or *sinjúbára* is not grown by itself, but around fields of cotton, and the ground is not specially prepared for it. The object of sowing a single row of *sankukrá* round cotton fields is not clear. The people say it is to prevent passers by helping themselves to cotton. The pods, leaf, and flower of *sankukrá* are not unlike those of cotton. The fibre is inferior to that of *sanni*. *Sann* or *sanni* is rarely grown in larger patches than a *kanál*. The land is ploughed and harrowed. Then the seed is sown broadcast. The plot is ploughed twice and harrowed after the second ploughing. Fifty-six sers of seed go to the acre; the object of such wholesale expenditure of seed being to make the plants grow close together, and so oblige them to shoot up. *Sanni* has to be watered about every 15 days. When the crop is cut, it is tied in bundles and soaked in water for 10 or 12 days. It is then dried, and the skin is peeled off and twisted into ropes. The wood is used for fuel. *Sanni* is attacked by *báhmni*

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or *chittri*, but the harm done is trifling. *Sanni* with its tall and slender shape, yellow flowers, and narrow tapering leaves, is a pretty plant.

Red pepper.

Red pepper is planted first in manured seedling beds. When the plants are 8 to 9 inches high, they are transplanted. They are not removed all at the same time; but when each plant has reached the proper size, it is transplanted. The pepper field is ploughed twice and harrowed after each ploughing. Then beds are made and irrigated. The seedlings are next transplanted, holes being made with the hand to receive them. After transplanting the crop has to be irrigated every 7th or 8th day. About one month after transplanting, the field should be weeded, and some manure put about the roots of each plant, and this treatment is repeated after another month has elapsed. After the third month the crop is weeded. When the pods ripen, they are picked every 4th or 5th and sometimes 6th or 7th day, till the frost comes, when all the remaining pods, red or green, are gathered. The pods are dried in the sun to keep them from rotting. The wood of pepper is of no use, not even for fuel. Pepper is another *mùdhi* crop. It is cut down at the end of Maghar. At the beginning of Phágan the ground about the roots is dug up, and manure applied to them. Water is given every 15 days. The pods can be picked from the middle of Jeth to the end of Asu. Weeding should take place at the first watering in Phágan, and again a month after. Pepper does not suffer from any disease, but *mùla*, white-ants, and parrots prey on it.

Sugarcane.

Sugarcane is very little cultivated, principally on account of the difficulty of getting a continuous supply of water. Sugar is not made from that grown. It is used simply as a pleasant article of food in its raw state. The soil may be either *sikand* or *gasra*, but it must be manured. The ground is ploughed up twice and harrowed once, and then manured. It is again ploughed and harrowed. Then shallow trenches are made, and pieces of cane, each containing a joint, are laid in the plane of the ground with the length of the piece at right-angles to the length of the trench in holes made in the trenches, at intervals of about one foot. The holes are then filled up, and the trenches watered. Every 5th or 6th day water has to be supplied. After one month hoeing and weeding should take place, and should be repeated afterwards four or five times, whenever grass grows high. About three months after the young shoots appear, the earth is banked up about the roots, and when the stalks get long and are in danger of being broken by the wind, several are tied together, so as to support each other. The above method of preparing the ground is slovenly. Good cultivators plough twice and harrow once in Poh and again in Máh. In Phágan they manure, plough twice, and harrow once, and again plough twice and harrow. Sugarcane is called *ponda* or *paunda*. There are two kinds the *sahàrni* or Sahàranpuri, and the *desi* or Jullunduri. The former is the coarser and larger of the two. The *desi* is sweeter, softer, and more juicy. Cultivators sell a certain area under cane to *karàrs*, who cut the canes and retail them in the *bàzàr*. A single good cane will fetch one anna or five pice. White-ants seem the most dangerous enemy of sugarcane.

Melons, &c.

Under melons, &c., are included *khìra*, *wanga*, and *tar*, eaten raw before the seeds ripen; *kharbùza* and *hadwàna*, eaten raw after

Melons, &c.

the seeds ripen; and *tori*, *karela*, *tinda*, *kadu*, *petha*, and all, eaten cooked. *Kharbúza* and *hadwána* are grown on unmanured sandy soils, the others on manured land, good *gasra*, if possible. On well-lands the ground is ploughed up several times during the cold weather, and harrowed each time. When seed time comes the ground is watered, and the seed sown broadcast. Two ploughings and one harrowing are then given; beds are made; and irrigation afforded about once a a week. One weeding, about a month after sowing, is enough. On *sailába* lands the ground is ploughed twice and harrowed once. The seed is then sown by drill. No weeding or watering takes place. Melons are often sown among cotton. In this case they are treated just as cotton is. From 4 to 8 sers of seed are sown in an acre. *Hadda* is the characteristic disease of melons. They are also attacked by *chittri*, and jackals are very fond of them.

China.

Chína is extensively cultivated both in spring and autumn. It is not generally grown on manured land, but if the soil is poor, it should be manured. Some also scatter manure over the field after sowing. The best mode of cultivation is to plough up the ground twice, and let it lie for some time. Then plough twice again and sow broadcast. Plough again twice. After every second ploughing harrow. Some only plough four times and harrow twice, and some simply plough three times, harrowing after each ploughing but the last. Then they sow and harrow. From 12 to 16 sers of seed go to the acre. This crop requires constant watering. Fifteen waterings are said to be necessary; but 10 are certainly required. The people have a marvellous legend about a Rája declaring *chína* should pay no revenue on account of the quantity of water it takes. It is a precarious crop, especially in the spring, as high winds shake out the ripening grain, hence the saying—

Chína wá wahna;
Je ghar áwe tá jápe.

"*Chína*, a thing knocked down by the wind if it gets to the house, then perhaps (*i.e.*, perhaps the cultivator may get something)." There are two varieties of this crop—*chína* which is white, and *chíni* which is red. The former is larger and yields a larger return, but requries more water than *chíni*. It is more commonly sown. If there is a great deal of *chína*, it is threshed by bullocks, otherwise by knocking it against the side of a pit or a block of wood. It is commonly grown as green fodder. The dry straw, called *prál* or *práli*, is eaten by cattle, but is not considered good food as it is heating. *Chína* is sometimes grown with *charri*. As less irrigation is required in autumn than in spring, and there is then less wind, *chína* is more commonly cultivated in the former season. *Tela* and *kummi* attack it. The straw is to the grain, by weight, very nearly as 3 to 1.

Rawán.

Rawán is grown in the spring, only for fodder. It is given to cattle while green mixed with *túri*. The land is ploughed up twice and harrowed once or twice; and then the seed is sown with the drill. Cattle are sometimes turned out into *rawán* fields to graze. The plants are usually pulled up, not cut. When sown for the grain, which very rarely happens, the plants after being cut or pulled up, are dried. Then the leaves and pods are shaken off the stalks, and separated by the *chhajj*, and the pods are threshed by bullocks. The

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leaves are delicate, and would be destroyed if trampled on. When dry, they are used as food for cattle. They are fair fodder, but not good for horses. About 12 sers of seed are sown in an acre. *Tela* is the chief disease of *rawán*. Only one variety of this crop is known.

Wheat.

Wheat is the staple crop of this district. The most advisable mode of cultivation is to plough and level the ground in Sánwan and Bhádron, after rain, as often as possible, generally four times altogether; the furrows should cross each other. When the time comes to sow, it will generally be necessary to irrigate the land. Then the ground is ploughed and harrowed once or twice, and the seed sown broadcast. One more ploughing and harrowing are given, and then beds are made. The crop is watered from five to eight times, according to the soil, character of the season, &c. A top dressing of manure is sometimes given. In respect of wheat, as of most other crops, the grand principle of manuring is to manure wherever you have the means. Wheat is not weeded. On *sailába* lands ploughing commences as soon as the ground is dry enough. As many as five ploughings may be given, and the ground be levelled after each. In the latter half of October the seed is sown by drill after two ploughings and harrowings. Some harrow after sowing, some do not. Wheat on canal-land is treated just like wheat on well-lands. Rain wheat is grown in much the same way. A couple of ploughings and harrowings take place in Sánwan, Bhádron, and Asu. In Kátik the seed is sown with the drill, and the field harrowed. Some cultivators plough seven times; some think they have done well if they plough twice. The average quantity of seed sown is 112 lbs. per acre. It appears to make no difference, as regards weight of seed, whether the cultivation is *bárání*, *sailába* or *cháhi*, which is certainly a strange thing. The way in which wheat is threshed has already been described. It is considered a point of good husbandry to commence to reap on the 1st of Visákh, whether the crop is ripe or not; but reaping need not continue. But all the wheat should be cut before the end of the month; for—*kanakán te kúnján, mahna je Visákh rahin.* "It is a fault (reproach) if wheat and *kunj* are not off in Visákh. The average height of wheat is 3½ feet. Four kinds of wheat are grown: *Pamman* and *ratti* or *nikki*, both red wheats; and *dáúdi* and *ghoni*, white wheats. *Ghoni* is beardless; the others are bearded. The beards and ears of the red wheats turn black when they ripen; those of *dáúdi* remain white. So does the ear of *ghoni*. The ear of *ratti* is squarish and does not taper; that of *pamman* is rectangular, and it does taper; so do those of *dáúdi* and *ghoni*, which are roundish. *Pamman* is the largest kind; next comes *ratti*, and then the white varieties. *Pamman* requires more cultivation than the others. The grain of it is considered more strengthening than that of the other three, and will sell dearer; but well-to-do people prefer the white wheat. It is the regular custom to cut down green wheat and give it as fodder to cattle. Each pair of bullocks will eat up a quarter of an acre of wheat, on an average, before the crop is cut. Green wheat is often more valuable than ripe wheat. But the demand is very limited, being chiefly for fodder for milch-cattle of non-agriculturists in large towns and at fairs. On an average, the weight of the grain is to the straw as 1 to 3. In some *dáúdi* wheat Mr. Purser found 4¼

Wheat.

sers of grain to 6¼ straw; but in the 5 feet 11 inches *pamman* there were only 6 sers 11 *chittàks* of grain to 35 sers 5 *chittàks* of straw. The average number of grains to the *tola* is 355. Wheat is very often mixed with barley, not intentionally, but owing to carelessness in selecting seed. It is said that if the seed of wheat grown on the Deg *sailàba* lands is used there twice running, the crop deteriorates; that is to say, if the grain of one harvest is used as seed for the next, the produce of the grain of the second harvest will be deficient in quality and quantity. Wheat is sown mixed with barley intentionally. This crop is called *goji*. It is also sown mixed with gram. This crop is known as *beràra*.

Barley.

Barley is treated as wheat, but is considered an inferior crop, and gets less attention from industrious cultivators. It cannot get any from the idle. Barley is considered only fit for horses: *jau kachche pakke, daddare, jo joban turiyàn.* "Unripe, ripe, half ripe barley, whatever excellence (it possesses) is only for horses." The usual amount of seed-grain to the acre is 42 sers. Dry, broken up barley straw is considered good fodder. *Kàni* is the chief disease of this crop. The yield of barley in this district is to that of wheat on the same area as 5 to 4. Only one kind of barley is grown.

Gram.

Gram is cultivated in the most simple way. If necessary, the ground is irrigated; but on *sailàba* lands there is no need to do so. The seed is then flung broadcast on the land and ploughed in once or twice; or if there is a great deal of grass, three times. Nothing more is done till the crop is reaped. Irrigation after sowing is considered injurious. From 15 to 20 sers of seed are sown on the acre. Dry stalks and leaves of gram are used as fodder. They are considered injurious to milch-cattle, and little better than poison for horses, as they cause constipation. Three kinds of gram are known—the red, black, and white. The last is very rare. It is called *Kàbuli chhola*. It is softer, parches better, and yields a better *dàl* than the others. Confectioners use it to some extent, as the grains need not be peeled before use, as the red and black grains have to be. These last two are always grown together. Gram is not subject to any disease, but it is injured by lightning, and numerous insects and caterpillars.

Charal.

Charal is a kind of field pea. It is sown on inferior land, and almost invariably on *sailàba* land. Hard ground recently thrown up is often planted with *charal*, as its roots are supposed to have the property of breaking it up and softening it. The ground is ploughed up; the seed is then sown broadcast, at the rate of 16 to 20 sers to the acre, and ploughed in twice. This crop is grown chiefly for green fodder. The plants are pulled up or cut. The dry stalk and leaves are considered good fodder for cattle; but not for horses, as their effect is the same as that of gram stalks and leaves. Only one variety is known. *Charal* is attaked by *sundi*.

Masar.

Masar is cultivated in the same way as *charal*. It is often sown on soft lands, newly thrown up, free from grass and weeds. About 16 sers of seed are sown on an acre. *Masar* is not unlike gram when young; but the leaves of the latter are serrate, those of *masar* are not. The dry stalks and leaves of *masar* are used as fodder. Some consider them heating, and therefore bad for milch-cattle; others think

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them good food for all cattle, as being sweet. *Masar* suffers from *tela* and lightning. *Mlúa* also attacks it. A plant called *arári*, with pink flowers like those of a pea, and growing about one foot high, is common in *masar* fields. It is said to twine itself round *masar* plants and choke them. Only one variety of *masar* is known.

Methra.

Methra is used exclusively as green fodder. It is usually grown on *sailába* lands. The seed is sown broadcast, at about 16 sers to the acre, and ploughed in once. On well-lands, after ploughing the ground is harrowed, and beds are made. The crop is watered about every 15 days. After three months it can be cut; it should then be watered, and may be cut three or four times more, at intervals of 15 days, being watered after each cutting. *Methra* has a white flower like that of a pea; compound ternate leaves, serrate, not unlike *sinji* leaves, but the side of the leaf furthest from the leaf stalk is flattened, and not pointed as in *sinji*.

Turnips.

Turnips should be grown on good *gasra* land. In the hard *sikand* they do not grow to any large size. It is a good thing to fold cattle on land destined for turnips. The ground should be ploughed up, if possible, a couple of times in the cold weather, or early in the rains. In Bhádron it should be manured, but seldom is. It is then watered, and ploughed, and harrowed twice. The seed is sown broadcast. Two sers of seed mixed with the same quantity of earth go to the acre. The field is next harrowed (some people giving a ploughing in addition) and made into beds. The plants appear in a week. After three weeks they are watered, and after that, once every 10 days. From the middle of November the crop is used as fodder. The leaves are cut off, and any large turnips are pulled up. The leaves should not be cut as long as there is any dew on them. By the middle of January all the roots are fit for use. According to some, turnip roots given to cattle in Maghar (November-December) make them sick. Turnips grow to a great size sometimes; and generally are chopped up. They are considered poor food,—what rice is to man. They are much inferior to *charri* as fodder. However, they are filling, and are extensively cultivated. Turnips are sliced, dried, and stored for human food. Only one variety, the red, is common, though the white is occasionally grown. *Tela* is the principal disease. Some say *chitri* attacks turnips. Others assert that, if turnips are sown in Bhádron, mosquitoes destroy them. It is possible. On *sailába* lands two ploughings are given. The seed is sown broadcast mixed with earth, and the ground is then harrowed.

Sarhon.

Sarhon is grown either as fodder for cattle or for its seed, of which bitter oil is made. Sixteen sers of seed yield 4 sers of oil. The refuse or oil-cake (*khal*) is given to cattle. This crop is often sown with wheat and gram, when it is treated, as regards cultivation, as they are. When grown by itself the ground is ploughed twice and harrowed. The seed, 2 sers to the acre, mixed with the same quantity of earth, is sown broadcast. The ground is then ploughed and harrowed, and beds are formed. A watering is at once given; and afterwards repeated at intervals of from 10 to 15 days. When used as fodder, *sarhon* is treated much as turnips. It should be cut down before or very early in Mágh, or it will not yield a second crop. If well irrigated and manured, a second crop can be obtained from

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plants so cut down. *Sarhon* suffers from the *tela* in Poh and Mágh. When the grain sets, parrots eat it. Only one variety is known.

Tobacco.

Tobacco is a crop on which a great deal of labour has to be spent. Towards the end of October the seed-bed is prepared. It is manured and dug up with the *kahi*, and the earth is finely pulverized. Two *chittàks* of seed are mixed with as much earth, and gently scattered over a seed-bed, one *marla* in extent. This will supply plants for two *kànàls*, when planted out. The seed is then rubbed in with the hand or thorn-bushes. Manure is scattered over the bed and water is given; or the manure may be scattered on the water. The seedlings are watered every 15 days. When the nights get cold, they are covered with screens or leafy branches of trees. The north side of the bed is screened completely and the west side partially. In Kátik the preparation of the tobacco field commences. Manure is put on the ground to the height of about 4 inches. Water is turned on, and the field ploughed twice and harrowed. The ploughing and harrowing are repeated in Maghar, Poh, and Magh. In Phágan, trenches about 15 inches deep and broad with ridges of the same breadth, are made with the *jandra* and dressed with the *kahi*. They are filled with water; and the seedlings taken from the nursery are planted at intervals of 18 inches, about 6 inches from the top, on the sides of the ridges. The trenches are filled with water about once a week. One month after transplanting the ground is weeded, and a little *kallar* put at the roots of each plant. This treatment is repeated at intervals of 20 days to four weeks. At the last weeding, some hoe with the *kahi* and put goat's dung in the trenches. The flower is nipped off all plants, except those reserved for seed. This makes the leaves spread, and prevents the plant growing tall. When no more leaves form, the plants are cut down with the *dàtri*, and left on the ground three days, during which they are constantly turned. Then a hole, big enough to hold the crop, is dug in the earth; the leaves are put in, covered with grass and earth, and left for 10 or 15 days. Next they are taken out, the stalks and hard ribs are removed, and the leaves dried in the shade, and then made into twists, called *subbs*. Stripping tobacco is called *chhildi*, and the person (generally a *kamìn*) who does the stripping and twisting, is paid usually five *subbs* for each hundred he prepares, or two or three *subbs* for working till noon; sometimes he gets 4 sers per *man* of tobacco prepared. It is very necessary to water tobacco just before cutting it, as otherwise it loses seriously in weight. It is not usual to mix tobacco with *gur*, nor are the stalks burned, and the ashes added to the mixture. Only one kind of tobacco, the *desi* or indigenous, is known. The disease from which tobacco suffers is *tela*. Its roots too are eaten by *mùla*.

Poppy.

Poppy is not grown to any great extent, in fact not sufficiently to supply the local demand for opium. It requires a good *gasra* soil, well manured. The proper mode of cultivation is as follows: manure the land, water, plough seven or eight times, harrowing after each ploughing. Take 4 *chittàks* of seed for each *kanàl*, and mix with two sers of earth, and sow broadcast. Before sowing beds are formed; and the seed is either covered by dragging thorns over the beds or by rubbing the surface of the ground with the hand. The ground is watered every 8th or 10th day till the plants are a foot or so high, after that every 15 days. At that time the field is weeded with the

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hand or the point of the *dátri*, and ashes are scattered over the plants. It is sometimes necessary to weed again after a month; and a third weeding may take place after the same interval. As soon as the heads form, the field has to be watched all day to preserve it from parrots. The heads are fit to be cut about the middle of March. Irrigation should then cease, as it is injurious. The poppy-heads are cut in the afternoon with a three-bladed instrument called *nistar*, not unlike a pen for ruling music lines. Two cuts of three incisions each are made from the bottom to the top of the head. These are repeated three times at intervals of four or five days. The crude opium is scraped off with a knife next morning. When required for use, the crude opium is dissolved in water; the impurities contained in it settle. The water is strained off and evaporated in an iron vessel. The opium is then removed from the pan. Poor crops are used for making *post*. The seeds afford an oil with which people anoint themselves, and Hindús on fast days make little cakes of them included in the *phlahár* or food lawful on such occasions. The poppy-head is made up exactly of equal parts of seed and shell. The former sells at Rs. 4, the latter at Rs. 8 per maund. Two kinds of poppy are grown, the white and red or *hazára*. The seed and flower of the former is white; the flower of the latter is red, and the seed black. The opium of the *hazára* is more intoxicating than that obtained from the white variety. Its seeds are slightly bitter; those of the white poppy are sweet, and are the more generally used. After the heads have been cut off, the poppy stalks are left to rot on the ground. Poppy does not appear to suffer from any disease except *tela*; but deer and hares eat the young plants, and parrots are very fond of the heads. Two or three *kanáls* are the outside area sown by any one cultivator with poppy.

Zíra. *Saunf* Vegetables.

Zíra is cultivated in only a few villages, such as in Manchárian, Dharmewálá, and Daula Pukhta near Dipálpur, and *saunf* is still rarer. It is needless to describe the way in which they are grown. The same remark applies to the cultivation of vegetables, which are found only in very small patches, and belong more to the domain of the kitchen-garden than of agriculture.

Average yield.

Table No. XXI shows the estimated average yield in lbs. per acre of each of the principal staples as shown in the Administration Report of 1881-82. Mr. Purser, who made the last Settlement of the district, devoted much attention to this subject. After pointing out the difficulty of obtaining any trustworthy data, he continues:—

"Concerning a few crops, I have been able to form an opinion, partly from actual experiment, and partly from enquiry; and I will state what I think the outturn on an acre of average soil, when the crop has been fairly cultivated, and has not suffered from, or benefited by, an unusual season. Irrigated wheat produces 16 maunds, or about 1,300 lbs. per acre. Barley, by all accounts, produces one-quarter more than wheat; so it ought to yield 20 maunds, but it does not get as good treatment, and may not produce so much. Rice gives 17 or 18 maunds of cleaned grain. *Kangni* produces 14 maunds per acre; but the outturn varies very much. I would put the yield of *chína* at 12 maunds. Cotton produces 6 maunds or, roughly speaking, 120 lbs. of cleaned fibre. Lieutenant Elphinstone puts the yield at 12 maunds or 240 lbs. of cleaned fibre. I believe that new land on the Rávi will produce that much, and 10 maunds on the Sutlej; but in a couple of years the outturn falls off by at least one-half. Poppy

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produces 6 sers of opium, or 3 maunds of *post* and 3 maunds of seed. Tobacco produces 25 maunds of green plants, which will dry down to about 6 maunds. An acre of turnips sells for Rs. 24. Lieutenant Elphinstone says they sold at 1,600 to 3,200 lbs. per rupee. Assuming the highest price now, the yield would be nearly 17 tons, about one-half less than the English average, including tops in both cases. But I doubt if 3 maunds are produced in the *marla*. As regards other crops, I can give no opinion that would be of much value."

Production and consumption of food-grains.

The average consumption of food per head has already been noticed at page 54. The total consumption of food-grains by the population of the district as estimated in 1878 for the purposes of the Famine Report, is shown in maunds in the margin. The figures are based upon an estimated population of 359,437 souls. On the other hand, the average consumption per head is believed to have been over-estimated. A rough estimate of the total production, exports and imports of food-grains was also framed at the same time; and it was stated (page 152, Famine Report) that there was on an average an annual surplus of 1,295,000 maunds of *wheat alone* available for exportation to Multán and Lahore for transport to Sindh, Calcutta, and Bombay. Part of the export was also said to go to Shahpur. As regards grains other than wheat, no estimate was framed. But in 1874 Mr. Purser thus discussed the surplus produce of the district, after the food and clothing of the people, the renewal of agricultural stock and machinery, and other necessary expenses had been provided for :—

Grain.	Agriculturists.	Non-agriculturists	Total.
Wheat ..	599,289	828,652	1,427,941
Inferior grains ..	363,854	213,082	576,936
Pulses ..	107,016	142,054	249,070
Total ..	1,070,159	1,183,788	2,253,947

"What is the surplus produce of the district, it is hard to say; but probably very little. There are, roughly speaking, 360,000 people in the district; and the cultivated area is nearly 365,000 acres. Deducting 40,000 acres on account of land devoted to green fodder, at the rate of $\frac{5}{8}$ of an acre per yoke, there remain 325,000 acres. Of these nearly 32,000 are under cotton. There remain then 293,000 acres to feed 360,000 people. At $\frac{3}{4}$ of a ser per diem for each person some 2,466,000 *mans* annually would be required to feed the people, which consumption requires an average produce of nearly $8\frac{1}{2}$ *mans* per acre. Adding seed-grain, the amount comes to nearly $9\frac{1}{4}$ *mans* per acre. This is a large average out-turn, especially when it is remembered that *til*, sugarcane, poppy, tobacco, &c., are included in the 293,000 acres. 32,000 acres of cotton at $1\frac{1}{2}$ *man* of cleaned cotton per acre, yield 48,000 *mans*, of which 18,000 *mans*, at 4lbs. per head of population (*vide Satistical Reporter*, page 80, December, 1870)—for it is a cold district in winter—are required for local consumption. The remaining 30,000 *mans* are worth Rs. 4,36,000 at 2 sers 12 *chittáks* the rupee: less than Rs. 1,36,000 cannot be allowed for salt. So the whole surplus is Rs. 300,000. This very rough calculation will, I think, show that the surplus production of the district cannot be very great. Profits from cattle are not included in this estimate."

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Table No. XVII shows the area of waste land which is under the management of the Forest Department. Of this the Montgomery Forest, with an area of 87 square miles, is reserved; while the scattered *rakhs*, whose area amounts to 773 square miles, are unreserved. The following note on the forests of the district has been furnished by Mr. Shakespear of the Forest Department through the Conservator :—

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"*Ranjít Singh, 5,377 acres.*—Reserved forest under Act VII of 1878 since September 1881; formed out of *rakhs* 56 and 57; under Forest Department since 1869. About 15 miles east of north from the railway station of Chíchawatni, on Sindh, Punjab and Delhi Railway, and 3 miles west of large town of Kamália. Demarcated by 20 feet wide lines and posts. Trees—*Prosopis spicigera, Tamarix orientalis* and *Gallica, Capparis* and *Salvadora. Saccharum* grass limited. No village rights beyond a few rights of way. Much resorted to by cattle of even distant villages for grazing, a share of the district *tirni* (grazing fees) being credited to Forest Department. Demand for wood up to present very limited, only firewood and a small number of *Tamarix* for house and well beams being sold, the former in lump sum of Rs. 170 from October 1883 to March 1884, and timber at 3 annas per cubic foot to neighbouring villages. This forest will, no doubt, be drawn on for locomotive fuel a few years hence, when once the mature trees nearer the railway line and south of the Rávi have been all cut out. Area formerly one of Ranjít Singh's grass reserves, being in his time oftener flooded by Rávi overflow, and thus capable of producing large stock of fodder. Now camels, goats and sheep are excluded. The forest is of almost one level, with exception of depressions here and there in which rain collects. South portion sometimes flooded, if river very high.

"*Darsána, 1,663 acres.*—Reserved as above, and under Forest Department control from 1869. About 10 miles north east of Chíchawatni railway station, and between the villages of Jhakhar and Bhussi, the latter head-quarters of the Khátia caste. Formed out of *rakh* 57. Trees similar to those of Ranjít Singh reserve. *Saccharum* grass more abundant owing to river overflow reaching oftener; this produce generally asked for for a few rupees. No demand for wood yet; though fairly near railway, yet the river intervenes. Demarcated as Ranjít Singh reserve, and similar animals prohibited from browsing; cattle admitted so far. No village rights except as above noted for Ranjít Singh.

"*Kalera, 4,561 acres.*—Reserved since September 1881. Also across the Rávi from the Sindh, Punjab and Delhi Railway, about 6 miles north of Chíchawatni station. Trees—*Prosopis* predominates; *Tamarix* and *Salvadora* few; and *Capparis* remarkably absent. Soil good, freely cultivated in small plots very many years ago. Most of area liable to overflow when Rávi high. *Saccharum* growth heavy, and affords facilities for spread of fire; reserve has been burnt often, on adjoining village or unreserved *rakhs* being burnt for stimulating grass growth. Mail cart road from Chíchawatni to Jhang bounds on west for 3½ miles, Rávi on south for 2 miles, on other sides demarcated by lines. Demand for wood limited; burnt trees cut out by Department, and sold at Re. 1-2-0 per hundred cubic feet to Railway Fuel Contractor. *Saccharum* always sought after for the *munj* used in string-making, grass for thatching, and stalks for *jaffri* work; sold for Rs. 50 or 60 a year. Open to cattle-grazing only on emergency, and on permit system, at 4 annas a month for buffaloes and 2 annas for cows and bullocks.

"*Harappa, 1,945 acres.*—Reserved forest since September 1881. Formed out of *rakh* 18; under Department since 1869. Equi-distant from railway stations of Chíchawatni and Harappa (Sindh, Punjab and Delhi Railway), and about 8 miles from both north-east and north-west respectively, 2 miles from Lahore and Multán main road and cis-Rávi. Trees—*Prosopis* chiefly; *Tamarix* in fair quantity; other species scarce. Low parts sometimes waterlogged from excessive flow from adjoining *nalla* that fills from Rávi in high floods; higher parts poor with bad soil. Demarcated by 20 feet lines and numbered posts. Though only 4 miles

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from the railway in a direct line, has not yet been drawn on for fuel-supply; local demand nothing worth mentioning. Resorted to by cattle for grazing; a share of the *tirni* collected by the Deputy Commissioner being credited to the Forest Department. Browsing animals not admitted: only a few rights of way.

"*Dad Fatianah, 1,072 acres.*—Reserved forest since September 1881. Includes nearly whole of *rakh* 27; under Department since 1869. 1½ miles north of Harappa reserve, 4 miles west of formerly flourishing city and late *tahsil* town of Harappa, and 7 miles north-west of railway station of same name. Bounded on north by district road, Harappa to Kamália, and other sides by 20 feet lines. Like Harappa reserve as regards species of trees, produce, grazing-rights, &c.

"*Mírdád, 3,352 acres.*—Reserved as foregoing forests, and under Department since 1869; formed out of *rakh* 15; almost all of this being included. Long, narrow formation 5½ by ½ to 1 miles. Near main Lahore and Multán road, between encamping-grounds of Muhammadpur on east, and Harappa on west. Approaches to within 3½ miles of Harappa, and 6 miles of Montgomery railway stations, and 3 miles in a straight line from the railway. Demarcated by lines and numbered posts. Intersected by dry *nallas* in which Rávi formerly flowed; growth in these very fair, and of *Prosopis* and *Tamarix* chiefly. *Salvadora* and *Capparis* on higher parts; these poorly covered with vegetation of any kind. Very large amount of cultivation on north side, and one plot of private land of small extent within forest limits; only some rights of way. Portion of original Lahore and Multán road (now abandoned) passes through the area, and is kept cleared to a width of 20 feet as a compartment line. Browsing animals excluded, but open to cattle; share of district grazing income being credited to Department by Deputy Commissioner every year. Small quantity of *Saccharum* sold sometimes for a few rupees. No demand for wood yet beyond a few donkey loads at Rs. 0-2-6 each, and some *Tamarix* for beams at 3 annas per cubic foot.

"*Muhammadpur, 1,748 acres.*—Reserved in September 1881, and formed out of old *rakh* 14; under Department since April 1869. Situated a little north of west, 6 miles from Montgomery civil and railway station. Adjoins present Lahore and Multán road, and is 2 miles north of Muhammadpur encamping-ground; western part intersected by old bed of Rávi, locally called Sukhráwa. Forest growth very open throughout, even in dry *nallas*. *Tamarix* and *Prosopis* chief species of trees. *Saccharum* grass is demand every year for *munj*, &c., and fetches from Rs. 20 to 40 at auction. Eastern portion was, many years ago when Rávi overflow used to be almost annual, put under artificial treatment for afforestation; but the scheme dropped, as results did not seem likely to prove remunerative. The area has been closed to grazing of all animals for many years, excepting in cases of extreme emergency, and then opened temporarily to cattle only at 4 annas a month for buffaloes, and 2 annas for cows and bullocks. The forest is surrounded by villages, and great trouble experienced from illicit grazing, particularly at night; the people have not properly got into the way of cutting grass, and the labour is certainly great in such arid localities. The right to cut has, however, been auctioned for Rs. 120 from October 1883 to March 1884. The dead wood is occasionally purchased at Re. 1 per 2-bullock cart, and 3 annas per donkey load; but there is no excessive demand yet for material of any kind.

"*Montgomery, 4,280 acres.*—Reserved since September 1881; out of *rakhs* 9 and 12; controlled by Department since 1869; 3 miles from Montgomery with road therefrom to Jhang through it. *Prosopis* predominates, being found fairly thick in low ground and Sakhráwa *nalla* near north

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limit. *Tamarix* and *Capparis* on higher level with a few *Salvadora*. Bounded by 20 feet wide lines; grazing of cattle only allowed; disposed of by Deputy Commissioner with general *rakh* area, and share credited to Department. Demand to present only for fire-wood, to supply general requirements of civil station and railway establishment of engine-drivers, guards and others. Dry wood rates Re. 1 per 2-bullock cart lifting on average 18 maunds (all expenses borne by purchaser), and 3 annas per donkey load average 2 maunds; selling rate at Montgomery 6 maunds per rupee. Besides fire-wood a small number of *Tamarix* at 3 annas per cubic foot for beams, and *Capparis* at Rs. 6-4-0 per hundred cubic feet for rafters, are disposed of, all expenses being borne by purchaser. Only a few rights of way.

"*Aliwál, 1,228 acres.*—Formed out of *rakhs* 3 and 7; under Department since 1869, and reserved in September 1881; 6½ miles on Lahore side of Montgomery, and 1½ on north of railway. *Prosopis* chiefly; *Capparis* and *Tamarix* fair; and *Salvadora* scarce. Small *Zizyphus* thick in low ground. Bounded by 20 feet lines and numbered posts and 1 foot trenching in bare places. Cut out irregularly many years ago for railway, and closed to grazing, except on an emergency. Grass bought and cut for 3 years by Montgomery District Committee at Rs. 250 and 300 a year. Grazing allowed during late drought, buffaloes at 4 annas, cows and bullocks at 2 annas each a month. Is a plot of low ground on the *bár*, and consequently receives rain water from surrounding ground. No rights except a few of way.

"*Nurshah, 3,391 acres.*—Reserved since September 1881, and formed out of *rakhs* 3 and 6; under Department since 1869. Intersected by Sukhráwa in large portion; growth fair in this, but poor on higher level. Bounded by 20 feet lines and numbered posts. Open to grazing of cattle only; share arranged for and credited to Department by Deputy Commissioner annually. Situated 10 miles north of east from Montgomery on south of Lahore and Multán roads, and near towns of Kaureshah and Nurshah, and 6 miles in direct line from Sindh, Punjab and Delhi Railway. No demand for material yet; no village rights beyond a few of way.

"*Burj Jime Khán, 4,587 acres.*—Formed out of *rakhs* 2 and 3. Under Department since 1869, and reserved in September 1881. Situated on south of Lahore and Multán road, about enqui-distant from encamping-ground of Akbar and Kaureshah, and 7 miles from Pák Pattan road railway station. Cattle-grazing only admitted, and arranged for by the Deputy Commissioner. Much intersected by Sukhráwa *nalla*; growth in this fair but poor elsewhere. Trees as above. No demand for wood yet. Bounded by 20 feet lines and numbered posts. Only a few rights of way.

"*Gashkori, 4,024 acres.*—Formed out of *rakh* 15. Under Department from April 1869, and reserved in September 1881. About 4 miles south-east of Akbar encamping-ground on Lahore-Multán road, and 6 miles north-west of Okara Railway (Sindh, Punjab and Delhi Railway) station. Much intersected by Sukhráwa *nalla*; growth of *Prosopis* and *Tamarix* fair therein, but poor on intermediate high ground. Trees irregularly cut 8 to 9 years ago for fuel-supply of railway. Closed to grazing except on emergency. Cutting of grass sold sometimes for Rs. 40 or 60 a year. *Saccharum* fetches a small sum. Resorted to sometimes for grass required for troops marching on relief. Occasionally small requisition by villagers for *Capparis* at Rs. 6-4-0 per hundred cubic feet. Boundaries 20 feet wide lines and numbered posts. Only a few rights of way.

"*Okara, 4,097 acres.*—Reserved in September 1881; out of *rakhs* 14 and 15; under Department since 1869. A few miles north-west of Okara

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railway station. Bounded on east by district road from Dipálpur to Gugerá, and on other sides by lines and numbered posts. Cut irregularly some years ago; closed to grazing except temporarily on emergency in hot weather of 1883. Contains some large low areas that hold rain water from surrounding higher lands. Trees *Prosopis* and *Tamarix* with some *Capparis*. Good fodder grass, and in olden times much resorted to by stock-owners from long distances. One plot of private land of 103 acres extent. Cutting of grass sometimes sold for at 8 annas a sickle a month.

"*Baggiana 1,470 acres*; *Bibipur, 864 acres*.—Both reserved in September 1881, and formed out of *rakh* 13; under Department since 1869; 6 and 7 miles respectively north of Okára railway station. Bounded by 20 feet lines and numbered posts. Trees of over 18 inches girth, cut out in 1879-80. Yield 449 cubic feet per acre. Taken by Sindh, Punjab and Dehli Railway Fuel Contractor at Rs. 2 per hundred cubic feet. Since closed to grazing, except for few months in hot weather of 1883, owing to scarcity from failure of spring rains. Only cattle admitted—buffaloes at 4 annas and cows at 2 annas a month each. Grass sometimes cut at 8 annas a month each sickle.

"*Satghara, 2,077 acres*; *Chokian, 1,566 acres*; *Kola, 1,190 acres*.—All reserved since September 1881 out of *rakh* 3. Under Department since 1869. To north-west, north, and north-east of Satghara town, and 7 to 10 miles from railway station of same name. Boundaries 20 feet lines and numbered posts. Grazing open to cattle only, and included in general district grazing; share credited by the Deputy Commissioneri Trees—*Prosopis*, *Tamarix* and *Capparis*, with a few *Salvadora*. Good fodder and a fair quantity of *panni* (local) grass; root *khas*, not however demanded. All these areas have patches of low ground in which water remains for some time. Only few rights of way.

"*Kamman, 2,264 acres*.—Also in *rakh* 3, and formed into reserve in September 1881; 6 miles north-west of Wanradharam station. Bounded by 20 feet lines and numbered posts. Almost entirely surrounded by village lands almost all cultivated. Grazing particularly valuable. Irregularly cut very many years ago. Trees of over 2 feet girth cut out in 1883-84. Yield about 50 cubic feet per acre, sold at Rs. 3-8-0 per hundred cubic feet of *Prosopis*, and Rs. 2-14-0 for *Tamarix*. Growth rather poor, even in low ground, and that on high, scarcely anything beyond a few stunted *Capparis*. Has been closed off and on to grazing.

"*Saiyadwála, 5,413 acres*.—Formed out of *rakh* 25, under Department since 1869, and reserved in September 1881. Trans-Rávi, 24 miles in direct line from the Sindh, Punjab and Delhi Railwy, and 48 from Lahore. Fairly wooded with *Prosopis*, *Tamarix*, and *Capparis*. Demarcated by lines and numbered posts. Grazing of cattle only admitted, and share credited to Department by the Deputy Commissioner. No demand yet for wood, but might be sold for removal to Lahore at a few annas per hundred cubic feet. Only a few rights of way. Some portion liable to flood rom Deg *nalla*.

Bucheki, 4,902 acres.—Not yet finally gazetted as a reserve, but about to be. Also in *rakh* 25. Demarcated by lines and numbered posts. Adjoins Lahore district western boundary, and is close to town of Bucheki and the Deg *nala*. Owing to grazing being particularly valuable. Commissioner of Division has ruled that only camels, goats and sheep be at all times excluded from the area. Contains small patches of private land. Trees—*Tamarix*, *Prosopis*, and *Capparis*. Some portions liable to flood by overflow from Deg *nalla*.

In addition to the above 88 square miles of reserve, the department has 759 square miles of waste land comprised in 45 *rakhs* not under

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any special Act, looked after by a petty establishment. Out of these small local demands for produce are at present met if possible; the bulk of the fuel consumed by the Sindh, Punjab and Delhi Railway since it was opened, has come from these unreserved areas; but only within the past few years has the cutting out been carried on at all systematically. Consequently there is still an enormous stock of over-mature wood, though of course the growth is not by any means compact. On this large *rakh* the Department receives its share of the grazing revenue after distribution over the entire district by the Deputy Commissioner."

SECTION B.—DOMESTIC ANIMALS.

Number of live-stock.

The live-stock of the district, as returned at various times in the Administration Report, are shown in Table No. XXII. Mr. Purser thus criticises the figures for 1868-69:—

"Buffaloes are not mentioned: they are probably shown under the heading cows and bullocks. My impression is that the number of horses and horned cattle is much under the mark. The distinction between horses and ponies need not be much noticed. A good many of the 1,600 animals put down as horses are simply shabby 'tats.' Taking horses and ponies together, it appears there are upwards of 1,100 such in the Rohtak district more than in Montgomery, yet one is at once struck on coming from the latter to the former district by the fact that scarcely any one seems to have a beast on which to ride. In Montgomery the people of the village one is inspecting who accompany one, are almost invariably mounted; in Rohtak they go on foot, partly because it is the custom for them to do so, and partly because but few of them have a horse or pony. As regards the horned cattle, the Deputy Commissioner, Mr. Blyth, estimated the number existing in 1866-67 as—191,138 cows, 63,732 bullocks, 59,433 buffaloes; and there is no reason to believe that any very serious decrease has since taken place. The Settlement returns for Gugerá and Montgomery *tahsíls* have mixed up sheep and goats with cattle, so they do not assist in ascertaining the number of cattle. In Pák Pattan the number of cattle was found to be 46,797, and in Dipálpur, 98,450, or a total of 145,247 for the Sutlej *tahsíl*; and it is strange if the Rávi *tahsíls* have not an equal number at least."

Government breeding operations.

No horse or cattle fair is held in this district. There are three donkey and four horse stallions here in charge of the *tahsíldárs* at—Gugerá, one donkey stallion; Dipálpur, one donkey and two horse stallions; Pák Pattan, one donkey and two horse stallions—all of the Arab breed.

The number of branded mares for the present is 772, the detail of which is as follows:—

Tahsíl Montgomery	...	...	24
" Gugerá	...	...	74
" Dipálpur	...	...	494
" Pák Pattan	...	...	180
	Total	...	772

No fees are charged for covering mares; only branded mares are covered by horse stallions. Mares not branded are covered by donkey stallions. A *silladár*, on Rs. 20 a month, keeps up statistics and furnishes reports, &c., to the Assistant Superintendent Horse-Breeding Operations, who visits the district during his annual tour, brands mares, and makes all suggestions necessary for furthering horse-breeding

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Domestic Animals.

Government breeding operations.

operations. The Government system of horse-breeding operations was introduced in this district four years ago, but the people do not appreciate it; hence very little progress has been made in rearing the young stock or improving the breed. No *salùtris* are employed here in connection with the horse-breeding operations, nor have any colts been gelt. No remounts have as yet been taken by any body. It is said that nine mules were taken away by dealers.

Some Hissár bulls were got in the district and distributed to—

Tahsil Dipálpur	...	...	...	2
" Gugerá	...	...	...	3
" Montgomery	...	...	...	1

The bulls are not much liked by the people, who pronounce the young ones feeble and requiring much more looking after than their own cattle. They also have a belief that a cow that has dropped a calf or a heifer of the Hissár breed begins to give less milk. During the year (1882-83) there were four Hissár rams entrusted to different *zaildàrs* in the district; of these two died. The people do not like the rams, because the stock got by them is said to be delicate, and also because the wool is said to be too short.

Horses.

The horses of this district never enjoyed any great celebrity, but the horses bred along the Lahore border, in the Nakka country, were held in good repute in olden times. A good mare, it is said, would fetch Rs. 800, and a horse from Rs. 200 to Rs. 500. These horses were country-bred, large, strong, and long-winded, and were much fancied by the Sikhs. There were some uncommonly fine mares or stallions, the produce of which was chiefly found among certain tribes or with certain individuals; such were Anmol and Kajal in the Manes tribe; Morni, among the Karrals and Wattús; Phabban, with the Kharrals; and Nili, with the Bahrwál *sardàrs*. A well-grown mare can be got now for from Rs. 100 to Rs. 200, while the ordinary run of horses cost from Rs. 50 to Rs. 100. Horses are not uncommonly held in shares. One man owns, say, $\frac{1}{3}$, another $\frac{1}{4}$, and another $\frac{5}{12}$; Bába Bishn Singh is said to have encouraged horse-breeding. His stallions served the *zamìndàr's* mares, and in return he used to buy the produce, if a colt, when a year or two old, at much under its value. If a mare, nothing was taken; the *zamìndàr* retained her. There is a small stud now at Probynábád, in the Pák Pattan *tahsìl*, with outlying farms in several parts of the district, which is owned by the officers of the XIth Bengal Lancers, where horses are bred for the use of the regiment. Ponies cost from Rs. 12 to Rs. 50.

Asses.

Asses are generally kept by Kumhárs, Machhís, and Chúhras. An average male ass will cost from Rs. 8 to Rs. 12, and a good one from Rs. 15 to Rs. 16. The female will cost about Rs. 5 more; asses are put to work when between 3 and 4 years' old, and work 8 years. The average weight they carry is from $1\frac{1}{2}$ to 2 maunds. If they belong to professional carriers, they get about 2 seers each of chopped straw (*tùri*) in the evening; if not, they are left to shift for themselves. The milk is not used. There are some fine white asses in the Pák Pattan *tahsìl*, said to be descended from asses that came from Dera Ghâzi Khán.

Camels.

There are three kinds of camel—the *sohàwa*, *ganda*, and *hazàra*. These terms seem to apply to the colour of the animal. The *sohàwa*

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Camels.

camel has long lips, medium-sized head, thick skin, and is of a brown colour. The *ganda* camel is grey, and has a large head, small mouth, and thin skin. The *hazára* camel has a small tail and is of a red colour. This is the worst of the three kinds, as it has no endurance on a journey. The *ganda* is the best. The female gives much more milk than that of the *soháwa*; the colour is good, and the strength and endurance of the *ganda* is superior. The camels of this district are of no use for riding. A good *ganda* camel costs about Rs. 100 to Rs. 120; a *soháwa* Rs. 10 less; and a *hazára* Rs. 20 less. Outsiders generally buy male camels. A female camel fetches on an average Rs. 20 less than the male. The camel-owners, however, depend on their profits from letting out camels as baggage animals, not on their profits from the sale of them. Large herds go down annually to Bhiwáni for employment. If well treated, a camel lives 40 years. If its owner is poor, he will commence loading it at 3 years of age; if fairly off, at 4. The coupling season is Poh, Magar, Phágan, and Chetr (December to March). The period of gestation is 12 months. At 4, the female camel brings forth her first young one. She continues bearing 9 or 10 times, at intervals of two years. After one year the young one is weaned. Up to that period the milk is good; afterwards it is inferior. A camel will feed her young and yield 12 seers of milk a day besides. The owner milks her twice a day; he milks two teats and leaves two for the young one. The milk yields curds and buttermilk, but not butter. It acts as a laxative to those not accustomed to its use. It is uncommonly good, and magnificent for disease of the spleen (*lipph*). A camel commences with carrying 3 maunds, and when full grown, carries 8. The camel is shorn in Chetr: and its hair, mixed with goats' hair, is made into ropes and *borás* (*borá*=a sack). The shearing yields about ¼ of a seer of hair. When the camel is at death's door, it is duly slaughtered, and there is a feast on its flesh. The Chúhra appropriates the skin, and sells it for about 8 annas to the *dabgar*, or maker of large leather vessels called *kuppás*, in which oil and *ghi* are carried. After the hair has been stripped off, the raw hide is placed round a hollow earthen mould. When the hide dries and hardens, the mould is broken and shaken out of the mouth of the *kuppá*, which is then complete. In a disease to which melons are subject, called *hadda*, camel's bones burned to windward of the field attacked are a fine remedy. Camels are turned out into the jungle and allowed to do for themselves. They eat almost anything; but *ák*, *dhák*, and *harmal* they avoid. They are sometimes given alum and spices. A camel is called *todá* till one year old. Then *mazat* till two years old, or for one year after weaning. He is afterwards called *tríhán*, *chhatar*, *doyak*, *chaugga*, *chhigga*, *nesh*, and *armash*, at the commencement of his 3rd, 4th, 5th, 6th, 7th, 8th, and 9th years respectively. After that he is full grown, and is called *únth*. The first year is divided into three parts: the first four months, when the camel is called *lihárá* or *lihárá todá*; the next two, when the name is changed to *mohála*; and the last six, when it becomes *kutela*. When the camel becomes a *chhatar*, his milk teeth go; and at each succeeding stage the camel gets two teeth; till when he becomes *armash*, he has his proper compliment of six incisors and four canine teeth. A female camel is called *todí* till 2 years old; then, till 4 years old, *puráp*. As soon as

Age at which weaned, commences work, breeds, &c.

Milk.

Burden carried.

Hair.

Flesh.

Food of camels.

Names of camels at different stages of growth.

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Domestic Animals.

Diseases of camels.

she has brought forth her first young one, she becomes a *dáchi*, and is afterwards called *dáchi pahlan, dáchi dúyán*, and so on, according to the number of young she has produced.

Camels are subject to many diseases and ailments. The remedies are often remarkable. However, a general remedy in all cases is to hang up a charm, or still better, a *korán*, and drive the sick animal beneath it. The giving of alms, and prayers of pious people, are also very efficacious. The following are the more common diseases, with their symptoms and remedies, causes and results:—

Sat.—This is the most deadly of diseases. The only visible symptoms are trembling, sweating, and the mouth being kept open. The disease occurs at all seasons; there is no remedy; in a couple of hours after the symptoms appear the animal is dead. It is as it were struck dead; hence the name *sat*, meaning a blow; it seems to be splenic apoplexy.

Zahmat.—Cause not known; occurs in hot weather; the animal coughs, ceases to eat and drink; there is a running from mouth and nose. Remedies: boil 1 seer of old molasses (*gur*), ¼ seer poppy-heads (*post*), and ¼ seer *ajwáin* water; give for three or four days consecutively in the evening; or give ¼ seer of heated salt dissolved in water in the evening. Young animals generally escape, but the old die; seems like rinderpest.

Hibbi occurs at any season, and is said to be due to eating unwholesome food. Throat and neck swell. The animal generally recovers in a week; the swelling is branded, or ½ seer of *ghi* is poured down each nostril through a tube or the spout of a *lotá*, twice or thrice; or from 1 to 2 seers of wheaten bread soaked in *ghi* are given every evening, for a week.

Phet occurs in the rains, also at commencement of the hot weather when the camels are laden with heating goods. Due in rains to noxious exhalations and attacks of mosquitoes. This is a lingering disorder, and the animal generally dies. It eats little, stays out in the sun, and becomes a mere bag of bones. Skin shrivels up. The remedies are: one seer of *gur* and *háliyá* (*Lipidium sativum*) mixed, given every evening, or a seer of butter every evening, or a fermented drink made of *til* plants when the ear is forming, and *gur* or a *lotá* full of buttermilk churned up with alum or *háliyá*, continued till recovery. A couple of seers of dry wheat should be given every day for 10 or 12 days.

Sokra seems only a further stage of *phetá*; all animals attacked by *phetá* do not get it. The remedies are a decoction of roots of the *kokanber*, or a fermentod drink made of equal parts of white cummins, coriander seeds and candy. About 75 per cent. of the cases terminate fatally.

Khárish, or mange, occurs in August and September, and December and January; is attributed to drinking stagnant water and getting no *lána* to eat. It lasts from 2 to 4 months, and is easily curable. The body is rubbed with sweet oil and sulphur mixed; a couple of seers of onions are given every day for a fortnight, or a couple of seers of mixed *gur* and bitter oil are administered daily for the same period. The whole body becomes a mass of sore; the hair comes off, the skin cracks, and blood exudes.

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Diseases of camels.

Símak is a swelling in the knee, hock, shoulder or ankle. It occurs in every season, and is attributed to unwholesome food. The animal raises the limb affected, and cannot walk and ceases to eat. Bleeding and branding are the remedies. A cure is generally effected.

Barr.—This is a dangerous disease; about half the animals attacked die. It generally occurs in the latter half of the year after August, and is said to be caused by taking off the saddle before the animal has got cool; the symptoms are like some noticed in rinderpest; all four legs get rigid; the animal falls down, shivers, raises its head, and ceases to eat and drink. As treatment, a line is branded all round the body; or ½ seer *gúgal* (*Bdellium*), 1 *tola* of opium, ½ seer cloves, 1 seer candy, 2 seers of sweet oil, and a dozen or so of fowl's eggs are mixed up and given at once. The animal is wrapped up and kept out of cold and windy places.

Gathar is a swelling containing matter on the inside on the hind legs. It lasts a month or so. Cause is not known. Rarely fatal. May occur at any time. Besides branding, the remedy is to give a hot drink of boiled camel's milk and turmeric every evening for a week.

Bel is another dangerous disease. Few escape. It may occur at any time, and is said to be caused by the animal not getting the condiments it requires. A swelling of the rectum and of the whole body up to the hump is the most conspicuous symptom. The remedies adopted are branding in the form of a double cross over the backbone and a drench of 4 seers camel's milk boiled with 1 seer *háliyá* and 1 seer old *gur*.

Akra occurs in November and December. Front legs get stiff, and are moved with difficulty; attributed to eating dry *táhli* leaves, which is hardly correct, as there are no *táhli* leaves anywhere in the jungle. The animal generally gets well in Baisákh (April); *gur* is given daily, or a drink made of the ashes of the burnt skull of a horse mixed with stale water; this seems a sort of rheumatism. *Akra* means simply stiff.

Chandri or *Chháliyán.*—This is an eruption of boils rarely fatal. Occurs at any time. Cause is unknown. Black peper and *ghi*, mixed, are given; or *musar* (*ervum lens*) boiled with salt and red pepper. The boils are opened with a needle or sliced off with a knife. In very bad cases branding is resorted to.

Rasaula.—This is a large swelling like a goitre on the neck. On being opened it is found to contain blood; some say hair. At the beginning of the hot weather a boil forms under the back part of the pack-saddle; this heals about the end of the hot season after bursting. Owing to it camel-men do not care to be employed during the very hot months.

Sul, Rik.—Young camels for a couple of months after birth are liable to two diseases. One is *sul*, or colic. Few animals are attacked, if taken care of; but if attacked, they generally die. There is no remedy. The other is *rik*, which seems to be excessive purging. This is rarely fatal. A mixture of *khángar** boiled with 2 *tolás* of rice and 1 *tolá* of *bhang* (dried leaves of *Cannabis sativa*) is given every evening.

* *Khángar* is the milk of an animal shortly before she runs dry.

Of these diseases, *khárish* is said to be contagious, *sat* and *zahmat* infectious, and the others neither. It must be remembered that some of the above names may represent the same disease in different stages.

Cows.

The cows of the Rávi are considered much superior to those of the Sutlej, as they yield considerably more milk. A cow calves during the tenth month of pregnancy, generally in January and February, or May and June. She commences calving when four years old, and, as a rule, produces four calves at intervals of from 18 months to 2 years. In places where the grass is uncommonly good, she will have as many as five calves. As soon as she has calved, a mixture of one seer of *gur* and two *chittáks* of soap is stuffed down her throat to aid in the expulsion of the placenta *(jer)*. For two or three days afterwards she gets every evening two seers of wheat soaked in water till it swells *(ghunggani)*, with two or three *chittáks* of *gur*. When not in milk, a cow is left to shift for herself pretty much, going out with the cattle of the village to graze. However, when in milk, if her owner is fairly off, and she has not many rivals, she will get some boiled cotton-seed (*varenva*), about 1¼ seer per diem in Poh, and in Jeth and Hár as much ground gram or barley soaked in water; and will, in other respects, be treated as owner's bullocks, sharing with them and the buffaloes the oil-cake (*khal*) he may possess. As a rule, a cow is well off if she gets some chopped straw in addition to what she can pick up in the fields. The calf is weaned when one year old. For six months after calving the supply of milk is good; it then falls off, and deteriorates. Cows are milked twice a day, morning and evening. The quantity of milk at each milking depends on the season, being in proportion to the length of the day or night. On an average a cow gives four seers of milk per diem or between 3 and 4 quarts. This is very little; but the animals are not fed well. This is a point on which the people are very chary of correct information; milk is not usually sold, as there is no demand. In odd places there may be some demand, and then the price will be about 16 seers the rupee. The people drink as much milk as they want, and turn the rest into butter or *ghi*. The morning's milk is placed in the *dúdh kárhni*, and simmers all day long. In the evening it is poured into another vessel and mixed with the evening's milk, and an acid substance, called *jág*, or in default of that, some wheaten bread is put into it to cause coagulation. In the morning it is churned. The butter is usually sold to persons who make it into *ghi*; the butter-milk (*lassi*) is used at home; 24 seers of milk will yield 14 *chittáks* of butter, which will give 9 to 10 *chittáks* of *ghi*. This is good considering the bad food of the cows.

Food.

Milk.

Points of a cow.

In buying cows, the points looked to are the fineness of the hair, the thin skin, heavy hind-quarters and slight fore-quarters. The size is looked to, as a test of what the calves will be. If in milk, the cow is milked; she should not be savage, given to kicking or butting; nor should she allow only one person to milk her. In the former case she is called *khátar*, in the latter *hathal*. Another trick cows have is only letting themselves be milked just after the calf has been sucking, and then only for a short time, so that the calf has to be brought back again. Such a cow is called *pherwán*

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dojh-wáli (*pherwán*, again; *dojh*, milking). The udder should be broad and stiff, the teats long and soft.

Points looked to in buying bullocks.

In buying bullocks the points looked to are the fitness of the animal for work. This is tested by putting it to plough, work at a well, &c. If it does well, its appearance is scrutinized. The eyes should be large and the ears small; the chest should be broad; the neck in front of the hump massive, so as to give a good support to the plough; the legs should be strong, hoofs broad, pasterns short. The hair and skin should be soft and fine; the tail long and thin. The colour is also looked to. White and grey are good colours; reddish brown is fair; red bad, and black worst of all. A bullock should have good horns, as a man should have a good moustache according to the saying, *mard muchhel, bail singel*; but connoisseurs are not agreed as to what a good horn is.

Cost of bullocks.

Bullocks cost from Rs. 10 to Rs. 80. A very fair average bullock can be got for Rs. 35. His work is generally light if continuous.

Working age. Emasculation.

A bullock is put to work when four, and will work 8 years if taken care of. In castrating bullocks, the knife is not used, as it is considered dangerous, people not being acquainted with the method to be adopted. The operation is effected by repeated blows of a small stick. It is generally carried out when the young bull is 2½ years old, in Phagan or Chetr. If before this age, the animal grows up a weed.

Food.

Bullocks are fed four times a day, in the morning and evening, at noon and before the owner goes to bed. They very seldom get any grain, if ever; but they may come in for some raw cotton-seed (*varenvan*) in Poh. Twice a month, except in Hár and Jeth, some salt is rubbed into their mouths; and the same is done in respect of cows and buffaloes. A bullock will eat from 12 to 15 seers of broken straw per diem, or about double that quantity of green fodder. Its food consists chiefly of broken straw of sorts, turnips, *charri*, *jowár* (grown as fodder), green wheat, and dry *jowár* stalks. Its food during the year, commencing with Chetr or the middle of March, may be taken to be as follows:—

Chetr.—Green wheat, *methra*, carrots (rare).

Baisákh.—Wheat straw; dry *túri*; grazes in stubble-fields.

Jeth.—*Túri* mixed with *chari*, sown early in Baisákh. *China* straw.

Hár.—*Túri.* If there has been rain, the bullocks are turned out to graze.

Sáwan-Bhádon.—Graze, as before. If there has been no rain, *túri*, or *chari* or *chína*, sown in Jeth and kept over, is given.

Asu.—*Kangní* straw or *chari* sown in Sáwan.

Kátik.—*Chari* sown in Sáwan, or straw of *chína* sown in Bhádon. Bullocks also graze in stubble-fields.

Maghar.—*Chari* or *chína* straw. Also rice straw, if available.

Poh.—*Túri* mixed with green wheat. Tops of turnips.

Mágh.—*Túri* and turnips (roots).

Phagan.—Green wheat, turnips, and *methrá* at the end of the month.

Túri is dry broken straw of wheat or barley. Of course a man may feed his bullocks any way he pleases; but, as a rule, they are fed much as shown above; turnips and green wheat are often given

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especially when still young, mixed with *túri*. It is not uncommon on the Rávi to turn the cattle out into the young fields of gram, *masar*, &c., to graze.

Names of cows and bullocks.

Like camels, cows and bullocks have different names at different stages of their growth. They are, however, very simple. The general name for cattle is *mal*. The following are the names in use :—

Name of Cow.	*Name of Bullock or Bull.*
Vachhi, till one year old.	*Vachha* till 1 year old.
Wairki, ,, 2½ ,, ,,	*Wairkà*, ,, 2½ ,, ,,
Dhanàp, ,, she calves.	*Vauhr*, ,, 4 ,, ,,
Gái (also *gao*, on Ravi) after calving.	*Bail* or *sành*, after 4 years of age.

There are other names according to the number of teeth or the kind of teeth they have, *viz.* :—

Name of Cow.	*Name of Bull or Bullock.*	*Period of life.*	
Khiri ...	*Khìrà* ...	Till 2 years of age.	Animal has only milk teeth.
Dondi ...	*Dondà* ...	From 2 ,, to 3.	,, two teeth (incisors).
Chauggi ...	*Chauggà* ...	,, 3 ,, ,, 4.	,, four ,,
Chhiggi ...	*Chhiggà* ...	After 4 ,,	,, six teeth.

Buffaloes, males.

Male buffaloes are not in much request in Montgomery; they are employed in places in the Sandal *bár*, where the wells are deep, and also in ploughing up the rice fields along the Deg. They are very strong, but they feel the heat very much and die soon. This is expressed in the saying :—

Jhote nún gah ; budhi nún rah.
Mard nún chakkí ; ghore nún chhati.
Cháre ráh kuráh.

or, "for a buffalo to thresh ; for an old woman to travel ; for a man to grind corn ; for a horse to carry the pannier of an ass : all four ways (of doing things) are bad ways." Male buffaloes are generally eaten when young. If they escape, they are sold to men of the Manjha and Shekhupura. They cost from Rs. 15 to Rs. 40. The average price is about Rs. 25. A buffalo commences to work at the same age as a bullock. A female buffalo costs from Rs. 25 to Rs. 90. A fairly good one will cost Rs. 50. The way milch-buffaloes are fed and treated is much the same as that adopted towards cows ; as more valuable, they are taken more care of ; and being bigger, they require more food than cows. A buffalo calves when 5 years of age after 11 months gestation, generally in Hár or Sáwan. She will produce six calves in all, at intervals of two years. Buffaloes are generally milked only once a day ; they give about half as much milk again as a cow ; and the milk yields about ⅓ more butter than the same quantity of cow's milk. A buffalo continues in good milk for 9 or 10 months. The names of buffaloes seem to differ on the Rávi and Sutlej. The general name for a female buffalo is *majh* and *mainh* respectively. The Sutlej names are as follows :—

Female buffaloes.

Male.	*Female.*	*Period during which so called.*
Kata or *Kat* ...	*Katt* ...	Till weaned—*i. e.*, one year of age.
Jhotra or *Jhotà* ...	*Jhoti* ...	From 1 year of age to 2 years of age.
Tirhàna ...	*Trihàn* ...	,, 2 ,, ,, ,, ,, 3 ,, ,, ,,
Sandàh ...	*Garhàp* ...	,, 3 ,, ,, ,, ,, 5 ,, ,, ,,
,, ...	*Mainh* ...	After 5 years of age.

On the Rávi the *jhota* stage lasts till 2½, and the *triháua* stage is not recognized. The names, according to teeth possessed, are the same for buffaloes as for cows and bullocks.

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Hides.

When cows, bullocks, and buffaloes die, they are made over to the Chuhras and Mochis. They use the skin for their own purposes, or sell them to travelling dealers. In Gugerá *tahsíl* the owners of the cattle are said sometimes to sell them; but this is not the custom elsewhere. The dealers are Khojas of Lahore, Kasur, and Ferozepore; or Chamárs of Ludhiana and even Umballa. The hides of cows and bullocks sell for from 8 annas to 12 annas, and those of buffaloes from Re. 1 to Re. 1-8 a piece. The leather of Jhámra and Lundianwála in Gugerá is spoken well of locally.

Trade in cattle.

The district breeds all the cattle it requires. Except in the Gugerá *tahsíl*, sales of cattle are not extensive; there, large numbers of quite young bulls are sold to merchants from the Bagri country, large bullocks are sold to people of the Manjha, and buffaloes to those of Shekhupura; Labanas of Lahore and Amritsar also buy young buffaloes in this district for carriage.

Diseases of cattle.

Horned cattle are subject to quite as many diseases as camels. Many are common to both classes of animals, and also attack horses, sheep, and goats. The more important ailments will now be noticed. Unless specially mentioned, the remarks apply to cows, bullocks, and buffaloes, and to them only.

Sat.—This is anthrac fever. It usually occurs in or just after the rains, and is caused by half-starved cattle suddenly obtaining an abundance of nutritious food in which they indulge to excess. Large gaseous swellings, as much as a foot in diameter, appears on the back, hind-quarters or fore-quarters. Sometimes there are swellings in the mouth. There is no remedy. If a *mula* can be got to charm the animal, some good may be done. Cutting a piece off the ear is another device. But almost every animal attacked dies within 24 hours.

Pír also called *Máta Sítlá* and *Sihál*. This is cow-pox. It is more fatal with buffaloes than with kine. Of the latter about half recover; there is no remedy. The sick animal is generally kept apart from the others. The cause of the disease is not known. It occurs at all seasons. The crisis comes on in 8 or 9 days. The chief symptoms are a running from the eyes, nose, and mouth; blisters form, and the dung has a most offensive odour.

Ghotu, or malignant sore-throat, occurs at all seasons. Cause not known. No remedy. Sometimes a portion of one ear is cut off, probably as a counter-irritant. The symptoms are well-marked. The neck swells; the animal gasps and breathes with difficulty; there is a rattling in the throat, and foaming at the mouth. The animal almost invariably dies, and usually within 24 hours.

Barr.—This is a rather dangerous disease, as about half those attacked die. It seems to be megrims; the characteristic sign is that the animal attacked turns round and round several times till it falls. The remedy is to brand all round the body, commencing at the nose, and going down the back under the tail and up the belly. It is attributed to getting a chill. As it usually occurs in Bhádon and Assú (middle of August to middle of October), it may be due to the same cause as *sat*, *viz.*, half-starved animals gorging themselves with rich food.

Phiphri.—Cows and bullocks when attacked mostly recover; buffaloes generally succumb. As its name implies, this is a disease

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Diseases of cattle.

of the lungs; though some insist it is a swelling of the spleen. The cause is not known; but it has been observed to follow after a chill. The symptoms a reheavy breathing with cough, and a falling out of condition. The disease may last as long as six months; and is said to end fatally in five days sometimes. It seems to be pleuro-pneumonia. The remedies adopted are branding under either shoulder or along the back-bone; or 1 seer of *ghi* and 4 *chittáks* of ground pomegranate peel are mixed and given every evening to a buffalo, or half that amount to a cow or bullock, generally for three days running only.

Táo.—In this disease, which usually lasts as long as the animal lives, but is rarely fatal, the symptoms are a thick staring coat; the animal keeps its mouth open and gasps; it seeks cool places and lies down in water whenever it can. *Táo* generally appears about the beginning of the rains. The cause is unknown. Some say buffaloes are not attacked. The remedy is a decoction of young *kíkar* leaves, or some butter mixed with a medicinal substance called *ras;* it seems a very rare disease.

Bhukni, or scouring; occurs at all seasons; cause is not known, but some say heat; some say eating unsuitable food, such as *gharni* grass when green. The disease consists in constant passing of watery evacuations. *Bhukni* means a piece of bamboo stem between two joints, sometimes used as water-pipe. The reason of the name of the disease is obvious. It is a deadly disease, most animals attacked dying. But some deny this. It is said to last as long as 8 days, violently. No remedy is practised, but coarsely-ground *jowár* and butter-milk, or coagulated milk and *máín* (galls of the tamarisk), or *gur* and onions, are recommended.

Múnhkhur, or foot and mouth disease, seems to occur at all seasons. The cause is not known; but some attribute it to a bird, called *mahárá*, pecking at the cleft of a hoof of the animal. Others scoff at this explanation. Blisters form in the mouth and on the feet; and the animal losses its appetite; the disease lasts about 10 days. It is rarely fatal. The parts affected are washed with warm water; and sometimes bread made of gram or *masúr*, with some salt and butter, is administered.

Lág occurs in the rains; and is attributed to the use of river waters, or eating grass that has grown in stagnant river water. The disease is not mortal generally. The symptoms are coughing, swelling of the neck, purging, loss of appetite. Milch cattle dry up. The remedies are: sweet oil, one seer per diem at intervals of 4 or 5 days, parched gram, or *chína* flour, or some salt. The disease lasts a couple of months, till the buffalo gets *khán* grass wet with dew, and other cattle *jowár* stalks.

Wao is palsy or paralysis; when a human being is attacked, it is called *jhola*. It usually occurs at the commencement of the cold weather, and is due to a chill. The ankles swell, the coat stares, the animal moves very little, and eats little. The hind-quarters are usually affected. Slight branding is sometimes, but rarely, tried. *Ghi* mixed with oil and turmeric, or oil and *til*, are given.

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Diseases of cattle.

Hada and *motra* seem to be bag and blood spavins. Branding and bleeding, and the application of boiling butter-milk to the swelling, are practised. The last is stated to cure the disease in three days. Hot spices and arsenic pills are said to be given as tonics.

Vil and *dháh* or *tag* seem to be the same disease; but the name *vil* is applied to it when it attacks cows and bullocks, and *tag* or *dhàh* when buffaloes are affected. *Tag* is used on the Rávi, and *dhàh* on the Sutlej. It mostly occurs at the commencement of the cold weather, and is attributed to the animal getting a chill. It is rarely fatal. In *vil* there is a running at the mouth, the ears grow cold, the legs stiffen, the teeth chatter, and the coat stares. The only remedy really used is putting the animal into the sun; its mouth is also kept open with a *munj* rope; onions are sometimes given; and by some a grasshopper (*tiddà*) now and then is considered useful. The animal generally gets well in 12 hours, but may be sick for four days. The symptoms in *dhàh* are nearly the same as in *vil*, but the part affected is the back. Any pressure there makes the animal at once fall down. Hence the name, which is derived from *dhàna*, to knock down. The duration of the attack is the same as that of *vil*. The disease may become chronic. The remedy is to keep the animal warm and well wrapped up so as to excite perspiration. At the same time give warm spices; salt should be put under the clothing. If the disease is of old standing, bleed at the head or tail, or at the back, and rub in opium. Both *dhàh* and *vil* seem to be forms of rheumatism.

Angyarì is a swelling of the udder. The swelling lasts 3 or 4 days. It is supposed to be due to the animal having eaten some heating substance. It occurs at all seasons; but mostly in the early part of the rains. If the issue is favourable, the cow or buffalo commences giving milk as usual; if not, she never gives any more, not even if she should calve again. Butter, half a seer for a cow, and double that for a buffalo, is stuffed down her throat for four or five days running. A coating of earth taken from a rat's hole and applied to the udder is considered beneficial, when the swelling commences. *Angyarì* means a small boil.

Ogu is a disease of buffaloes only. It occurs at any season. The cause is not known. It generally ends in death. The belly swells; the dung and urine are suppressed. Unless this can be remedied, the animal dies in a few hours. The favourite remedy is to make it sit down in water. Butter and *ghi* are given.

Diseases of horses.

Horses are attacked by *phiphrì*, *barr*, *wào*, *hadà*, *motrà*. Also by *ogu* and *bhùknì*, according to some; and by *ghotu*, called in their case *khunàk*. They also get *kanàr* or catarrh. The great remedy for this is burning blue cloth in a *lota* and making the animal inhale the smoke. Ground ginger is blown through a tube into the nostrils. There are several other remedies. This disease is not glanders usually. It is never fatal. But as glanders and catarrh are not unlike, the term *kanàr* would propably be used in a case of glanders. *Khùb* seems the same as *khunàk*.

Proportion of cattle of different age, &c.

The following tables show the results in percentages of a Settlement Census of 10,803 cows, bulls, and bullocks, and 2,531 buffaloes, taken in 1874. They show how agricultural cattle predominate in the Sutlej *tahsìls* and milch-cattle on the Rávi :—

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Proportion of cattle of different age, &c.

Number of cows, &c., counted.	*Tahsil.*	*Male.* Too young to work.	Of working age.	Too old to work.	Total.	*Female.* Under calving age.	Of calving age. In milk.	Of calving age. Dry.	Above calving age.	Total.
1,315	Montgomery	15·6	25·4	·6	41·6	18·8	25·9	12·4	1·3	58·4
4,155	Gugera	19·8	23·4	2·2	45·4	20·9	25·4	6·8	2·0	54·6
2,287	Pak Pattan	15·6	38·8	1·5	55·9	14·6	20·2	7·3	2·0	44·1
3,046	Dipalpur	16·6	33·2	·8	50·6	19·2	21·6	8·0	·6	49·4
					Buffaloes.					
245	Montgomery	11·4	7·4	..	18·8	21·2	34·3	25·7	..	81·2
1,103	Gugera	12·4	8·7	·4	21·5	27·2	37·0	11·6	2·7	78·5
474	Pak Pattan	7·0	9·5	·2	16·7	26·5	32·5	19·6	4·7	83·3
709	Dipalpur	16·0	13·1	·4	29·5	24·6	26·2	17·6	2·1	70·5

Sheep.

The sheep of this district are usually white with brown heads. Quite white sheep are not uncommon; but black are rare. The usual time of tup is August and September, and the lambs are dropped in February; sometimes the autumn is preferred for lambing. The ewe is then one year old. She will give one lamb for each of the next four years; sometimes more than one lamb is dropped; in this case both are weakly. The lamb is allowed all the milk for two months, after that only half, or even less, for about three months more. The ewe gives milk well for four months, and altogether for six. The milk is used as such, or made into butter and *ghi*. It is not sold as milk; but *ghi*-makers buy the butter at the same price, or at a little less than that of cows and buffaloes. Sheep are milked between the legs, not at the side, as cattle; the yield is about 3 *chittáks* per diem. One seer of milk produces ¾ to 1 *chitták* of butter. Sheep are sheared twice a year, in Chetr (middle of March to middle of April) and Kátik (middle of October to middle of November). They are first washed. The outturn of the former shearing is from 3 to 5 *chittáks*, of the latter 4 to 9 *chittáks*. The average yearly outturn is, perhaps, 12 *chittáks*. The wool (*ún*), obtained in the autumn is yellow, while the spring wool is white; the yellow wool is the cheaper of the two. The wool of the back and upper parts is good; that of the legs, belly, and throat inferior. The price of wool varies very much. It is sold at Rs. 36 per maund in Fazilka; but 3 seers the rupee will be about the average price. The fleeces are sold to traders of Fazilka, Kasur or Ferozepore. The skins are sold to wandering traders at from 1½ to 2½ annas each. They generally are taken on camels to Lahore, Amritsar or Fazilka. The skins are used for shoes, musical instruments, and bags for keeping money, clothes, flour, &c. Untanned sheep-skins are called *khalrí*; after tanning *meshá*. The flesh of sheep is extensively consumed. Sheep have also different names according to the stage of their growth. Till six months old a ram is called *lelá*, and a ewe *lelí*; after 12 months the former is known as *chhathra*, and the latter as *bhed*. Between the ages of 6 and 12 months there is a dispute; some say the ram is called *bodhar* and the ewe *gharáp*; others divide the period into two portions of three months each, during which the ram is called *sassa* and *chhathra* and the ewe *gharápi* and *gharáp*, but *sassa* seems properly a name applied to any well grown lamb. According to their teeth sheep are known as :—

Milk.

Wool and skin.

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Khìrì, till milk teeth are replaced, about 15 or 18 months after birth.
Pakkà khìrà ; *pakkì khìrì*. A few months before next stage.
Dondà, when animal has only 2 teeth, till about 2 years of age.
Chauga ,, ,, ,, 4 ,, ,, 2½ ,,
Chhiggà ,, ,, ,, 6 ,, after 2½ ,,

Goats.

With reference to their teeth, goats are called by the same names, except that the *pakkà khìrà* stage is not recognized. Goats, too, are more precocious, and so each stage ends six months sooner than with sheep. Till six months old, a he-goat is known as *pathorà*, a she-goat as *pathorì*. The former then becomes a *bakrà* ; the latter a *kharèp* ; till one year old when she is called *bakri*; goats kid in Chetr and Baisákh (middle of March to middle of May), or in Kátik and Magar (middle of October to middle of December) once a year. The period of gestation is six months. They generally have one kid at a time, and will produce 7 or 8 altogether. Goats are milked twice a day;

Milk, hair, and skin.

they give about 14 to 20 *chittàks* of milk. Till one month after birth the kid gets all the milk; then for another month, half; then it is weaned. The supply of milk is good for four months. For making butter the milk is bad, yielding only ½ *chittàk* of butter for each seer of milk. Goats are sheared in Chetr, Baisákh or Hár. Their hair is called *jat*. It sells at 7 to 8 seers the rupee. The yield of one goat ranges from 3 to 6 *chittàks*. The *jat* is sold to *kumhàrs*, camel-men, or *banyàs*. It is made into ropes, *boràs*, *chhatìs* and floor-cloths of shops, called *tappar* (sack-cloth). The skins of goats are disposed of in the same way as those of sheep. They fetch from 3 to 4 annas undressed. They are used for water-bags (*mashak*), as well as the purposes for which sheep-skins are used.

Sheep, and goats; food; quality; sales.

Goats and sheep get nothing to eat but what they can pick up in the jungle; they do not get any salt. Shortly before kidding, a goat gets some oil or *ghi* for a few days if in bad condition. The sheep of this district are of poor quality. The wool is coarse. The climate is too arid and the country too inhospitable for much improvement to be probable. Large numbers of young sheep are sold annually to travelling dealers, who take them to the up-country districts; a sheep costs from Re. 1 to Rs. 3; a goat from Re. 1 to Rs. 5.

Diseases of sheep and goats.

Sheep and goats suffer from *sat*, *ghotu*, *pìr*, *mùnhkhur*, *phiphri* and *angyàrì*, diseases described in pages 134-136. For the first four there is no remedy. Incantations, though useful to those not attacked, are of no avail to those afflicted. *Sat* and *ghotu* end in rapid death; scarcely any animal dies of *pìr* or *mùnhkhur*. The last is caused by the *mahàrà*. In a case of *phiphri*, branding the nose and ears or scalding them with hot milk, the first Sunday after the new moon, is tried. Pomegranate rind and *ghi* are given to the sick animal. Few die.

Sokra occurs usually in the rains. It is rarely fatal. The legs swell, and the animal becomes quite thin—in fact dries up; hence the name. Branding the swellings, and doses of sweet and bitter oil, or embrocations of the juice of the *àk* are the remedies adopted.

Pànilàg or *rik* is attributed to the same cause as *làg*, a disease of cows, &c. The symptons are the same. Fish oil obtained by boiling down the fish called *makni* is administered. A diet of *kìkar* branches or *charri* is said to be efficacious. It is generally a fatal disease. It seems to be "rot."

Rat is said to be a most deadly disease; none escape, if attacked. There is no remedy. The chief symptom is the passing of bloody

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Occupations, Industries, and Commerce.

Diseases of sheep and goats.

urine. *Rat* means blood. This is the disease known as red-water. It occurs usually early in the rains. It seems almost unknown on the Sutlej, but the Rávi people are acquainted with it.

Tret is the disease called *barr* in the case of cattle. It occurs at the same time, and the symptoms are the same, but it is rarely mortal. The remedy adopted is, branding either across the face or along the backbone near the tail. In the latter case opium is rubbed into the spot cauterized.

Sawattan or *savittal*, also called *zardoi*, seems to be hepatitis. The symptoms are yellow eyes, discoloured urine, and constipation. It is a rare disease, and occurs about August and September. It is attributed to the use of new grass and hot water. Death commonly results. There are really no remedies; but goat's milk diluted with water, or sometimes butter, is given.

Gada and *pán* are the itch; the former term is applied to sheep, the latter to goats. Sheep are washed with a decoction of *ukhán* leaves and *sajjí*, or sweeet oil or *sajjí* mixed with cow-dung is rubbed over them. Goats are rubbed over with a mixture of bitter oil and sulphur, and get curds or sweet oil to drink.

Hung or *hungan* attacks goats, and is usually fatal. The coat stares; the animal ceases to eat and drink; the ears hang down; and there is a cough. These are not very distinguishing symptoms. The remedy is incantation. As the principal part of the ceremony is feasting the miracle-working *fakír* on a healthy goat, and the sick one rarely recovers, the remedy seems worse than the disease.

Tilpháti seems to be rupture of the spleen, judging from its name. It is very rare, and usually fatal. Sheep and goats are attacked generally about the beginning of the cold weather. There is no remedy.

Áphar occurs at all times. It is said to be never fatal, and to last a few hours. The stomach swells; and the animal falls down. There is constipation.

Súl is a very similar disease. *Aphar* means a swelling of the stomach, that being filled with wind; and *súl* is said to mean colic.

Sericulture.

An interesting account of an experiment in sericulture, made by Mr. Peake at Gugerá in 1863, is given at pages 176-77 of *Punjab Products*. The experiment held out every promise of success; but was perforce abandoned in 1864 on the transfer of the head-quarters of the district from fertile Gugerá to the desolate and barren wastes of the civil station of Montgomery.

SECTION C.—OCCUPATIONS, INDUSTRIES, AND COMMERCE.

Occupations of the people.

Table No. XXIII shows the principal occupations followed by males of over 15 years of age as returned at the Census of 1881. But the figures are perhaps the least satisfactory of all the Census statistics, for reasons explained fully in the Census Report; and they must be taken subject to limitations which are given in some detail in Part II, Chapter VIII of the same Report. The figures in Table

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Occupations of the people.

Population.	Towns.	Villages.
Agricultural ..	4,013	184,100
Non-agricultural ..	19,576	218,840
Total	23,589	402,940

No. XXIII refer only to the population of 15 years of age and over. The figures in the margin show the distribution of the whole population into agricultural and non-agricultural, calculated on the assumption that the number of women and children dependent upon each male of over 15 years of age is the same whatever his occupation. These figures, however, include as agricultural only such part of the population as are agriculturists, pure and simple; and exclude not only the considerable number who combine agriculture with other occupations, but also the much larger number who depend in great measure for their livelihood upon the yield of agricultural operations. More detailed figures for the occupations of both males and females will be found at pages 133 to 142 of Table No. XIIA and in Table No. XIIB of the Census Report of 1881. The figures for female occupations, however, are exceedingly incomplete.

Principal industries and manufactures.

Table No. XXIV gives statistics of the manufactures of the district as they stood in 1881-82. Coarse cotton cloth is woven in most villages for home use, and in many for exportation, the trade in it being considerable. The fisheries of the district have already been described at pages 24, 25.

Mr. Lockwood Kipling, Principal of the Lahore School of Art, has kindly furnished the following note on some of the special industries of the district:—

Lac-turnery. Pák Pattan.

"The most notable industry of the Montgomery district is the lac-turnery of Pák Pattan. There are several families who send out a variety of toys, boxes, spring wheels, charpoy legs, &c., to all parts of the Punjab. The wood used is chiefly *bhán*, locally *obhán (Populus euphratica)*—the black or Lombardy poplar, a soft, light, easily-worked wood, containing no resin, and not liable to the attacks of insects, all which are essential points. Nothing could be simpler in principle than the craft of the *Kharadi*, while his *lathe* is a perfect example of the many Indian contrivances which produce wonderful results with the most elementary and apparently inadequate means. The varnish which is produced by pressing what is virtually a stick of coloured sealing-wax, against a rapidly revolving wooden object, has been found by the experience of generations to resist dust, damp, and excessive heat and dryness, better than any known paint, and it is used on all articles of domestic use which can be turned on the *lathe*. If this fine coating could be as cheaply applied to flat surfaces it would be of immense use. But this essentially simple art is capable of almost infinite variations. Though there are few towns in which it is not wrought in some fashion, there are some which, like Pák Pattan, enjoy a special reputation. The work from this town, though strongly resembling that of Sindh, with which province the south-west of the Punjab has some noticeable affinities, may be recognised by the use of a rich, mottled purple, alternating with bands of black, on which delicate floral borders and diapers appear to be painted in red and green. This ornament is, however, produced in a manner analogous to the Sgraffito of Italian architectural decoration. Coats of different colours are super-imposed on the surface, and the pattern is produced by scratching through these with a sharp stylus. Thus, a red flower is made by scratching through the black and green films; for the leaves, the black only is cut away, exposing the green; and for a white line all three are cut through to the white wood. This

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is obviously work requiring great delicacy of hand and long practice. The articles made at Pák Pattan, besides objects for native use, are tea-poys, toys, flower-stands, plateaux, chessmen, work-boxes, &c. The workmen are Muhammadans.

Cotton-weaving.—Pák Pattan.

"The cotton-weaving of Pák Pattan, though not of striking importance, is of good quality; and chequered *khes* fabrics with *lungis*, *chautahis*, and other varieties in common native use, are here strongly and neatly woven.

Calico-printing.—Kot Kamália.

At Kot Kamália very good cotton-printing is done. The characteristics of this work are, brightness of colour, and a certain quaintness and rudeness of pattern, which usually shows a good deal of white ground. Some *diwálgirs* (a better word than our dado), printed with archaic figures of horsemen, were sent to the Punjab Exhibition. Scarves, *abras*, and other articles are also made, and the work has a considerable reputation.

Reed baskets.

"Among merely domestic crafts, reed basket work, which, though almost universal in the Punjab, is better done at Gugera in the Montgomery district than elsewhere, may be here mentioned. The *chháj* or winnowing basket, remarkable for its strength and lightness and perfect adaptation to its purpose, would seem to have been the original, as it is the staple article. The *tili* or fine upper stalks of *múnj (Saccharum munja)* are neatly worked in rows tied to strengthening bars of stouter reed and bamboo with strips of fresh goat-skin, which is sometimes used in larger pieces to strengthen the corners. Baskets for domestic purposes are sometimes adorned with tufts of coloured wool; while mats, *punkahs*, and fancy baskets are worked over with lozenge-shaped crossings of parti-coloured worsted with cowries sewn on the borders. A large basket with a well fitting cover is much used for keeping feminine gear. Changars and Chuhras are said to be the most expert workers in a craft for which gipsies all over the world seem to have a special affinity. They are also frequently employed in shifting and winnowing wheat."

Sajji.

The following account of the manufacture of *sajji* is taken, after necessary corrections, from page 86 of *Punjab Products*:—

"*Sajji* is produced from two different plants which grow spontaneously in brackish soil in the *bár* tracts of the Bári and Rechná Doábs, called *kangan khár* and *gora lána*, the last yielding inferior, and the first superior *sajji*. The *kangan khár* plant yields the best alkali. The pure *sajji* from this plant is called *lota sajji*, and the residue mixed with ashes is called *kangan khár sajji*. The other plant yields only a dirty and inferior substance known as *bhútni sajji*, devil's soda. This is black in colour, and sold in pieces like lumps of ashes.

"The process is as follows:—The shrubs ripen about October, and the process of making *sajji* is carried on throughout October, November, December, and January. The first step is to cut down the plants with a wooden scythe called *talwar*. They are then allowed to lie on the ground in heaps to dry. When pefectly inflammable, a pit in the ground is dug in a hemispherical shape, about six feet in circumference and three deep, at the bottom of which one or more inverted *tinds*, or earthen vessels, are buried, having small holes pierced in their upper portions; the holes are kept closed at the commencement of operations. A fire is kindled, and the dry plants placed in the pit, with the aid of a *sángi* or pitchfork, and the fire is kept fed with the dry plants till all is burned. During the process of burning, a liquid substance is formed, which runs down into the *tinds* below the fire. After all the liquid has run through into the *tind*, the residue is stirred up with a stick called *mashad*, which has a round flat piece of wood at the end, like a ladle or a *ghorla*—*i.e.*, a piece of wood, cut green from the tree to prevent its burning. Great care must be taken during the above process that no water is allowed to be

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put on the fire, otherwise the whole mass would blow up, and endanger the lives of those manufacturing it. After the residuary mass has been stirred in the manner described, it is covered over with earth. It cools in three of four days, but can be taken out when wanted. The *bhùtni sajji* is made in the same manner as the above, but from the shrub called *gora làna*. When the earth is removed, the substance is found in a solid rocky state; it is then broken out with a tool called *wadan*, or wooden crowbar. Then the *tinds* that are underneath are also removed, and being broken, the contents are taken out. The residuary mass in the pit is crude dirty potash, but that which is found inside the *tinds*, is clean and free from ashes, &c.; it is callled *lota sajji*, because found in the *tind* or *lota*.

"The proportion produced of *kangan* and *bhùtni sajji* is four seers from a maund of the plant, or one-tenth; and of the *lota sajji*, one seer in a maund, or $\frac{1}{40}$th part. There is no tax on *sajji*, the plant being now included in the grazing leases, and no longer, as formerly, separately leased. The contractors are not allowed to protect or preserve it, but may cut as much as they please for the manufacture of *sajji*. The growing plants are much valued for camel-grazing. The market price of *bhùtni sajji* is from Re. 1 to Re. 1-8 per maund. *Lota sajji* commands a much higher price, and sells at Rs. 8 a maund. The expense attending the manufacture, *viz.*, cutting, stocking, and lifting, is about 4 annas per maund. The workmen who cut the plants get 2 annas a day, the burners take 3 annas, and there is one man to superintend. *Lota sajji* is principally used as a medicine, on account of its high price. *Kangan khàr sajji* is used in washing and dyeing with madder and *kasumbha*; it is used also for making soap, and in the process of purifying sugar, and in paper-making. The castes principally employed in the manufacture of *sajji* are Chuhras, Dhobis, Nunaris, and a few Aroras; but there is no necessary distinction or superstition on the point."

Course and nature of trade.

There are no statistics available for the general trade of the district. Table No. XXV gives particulars of the river traffic that passes through the district. The exports and imports of food-grains have already been noticed at page 121, and a list of fairs given at page 57. The trade of the district consists principally of the export of wheat, rice, a little gram, cotton and cotton-seed, wool, hides, *ghi sajji*, *màin*, and cloth, and sometimes of *mùnj*; and of the import of *jowàr* and *bàjra*, saccharine produce, salt, cloth, oil, hardware, fruit and dyes. Goods are exported and imported by rail, or by boat; or by road on camels, bullocks, ponies, asses, and in carts. They are generally carried at a fixed rate per *man* according to the distance. Wheat and gram are sent by boat and rail to Multán, and on camels to the Sirsa district. Rice goes to Lahore, Multán, and Amritsar by rail, and to Jhang and Fazilka on camels. Cotton and wool go by boat or rail to Multán, for despatch to Karáchi. Of the cotton produced on the Khánwah and Sohág canals in Dipálpur, about one-fourth is exported raw, and the remainder woven in the district into coarse cloth, much of which is exported. Of the Pák Pattan cotton some three-fifths are exported in its raw state. Cotton-seed is chiefly exported to Jhang and Ferozepore on camels. Hides are sent to Lahore and Amritsar by the same means of conveyance. *Ghi* goes to Amritsar and Multán by rail, and to Fazilka on ponies. *Sajji* is sent to Amritsar and Jullundur by rail or on camels, or in carts, which return after having brought *gur*. *Màin* (galls of tamarisk) goes also to Amritsar and Jullundur on camels or by rail. Yarn cloth and cloth fabrics are sent to Lahore,

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Prices, Weights and Measures, and Communications.

Course and nature of trade.

Amritsar, Sirsa, Baháwalpur, and Multán by rail or on camels, ponies, and asses. *Múnj* is exported to Amritsar and Jullundur on camels. *Jowár* and *bájra* are imported from the other side of the Sutlej, chiefly on camels and asses. Saccharine produce comes from Jullundur and Gurdáspur on camels and in carts. Shahpur sends salt on camels. Yarn and cloth imported are of English manufacture, and are obtained from Multan and Amritsar on camels and by rail. Camels and ponies bring oil from Fazilka. Amritsar supplies hardware by rail and on ponies. Fruit is brought by merchants of Afghánistán on camels. They also furnish madder, while indigo is got from Multán by rail.

Chief trading towns.

The chief trading towns are Saiyadwála, Kamália, and Pák Pattan. Saiyadwála exports a good deal of grain to the *bár* tracts of the Rachná Doáb. It also sends cotton-seeds to Jhang and Ferozepore. Good cloth is made here. Kamália sends *ghi* to Multán and Amritsar, oil seeds to Jhang, and wool to Multán and Karáchi. Its imports, too, are quite of the ordinary class: salt, *gur*, dyes, with silk from Multán, and cotton fabrics from Amritsar and Manchester. The principal trade of Pák Pattan is in cloth. Formerly large numbers of weavers lived here, and even now there are a good many looms at work, though the series of bad years experienced lately is said to have driven many weavers away. The *lúngis* of 700 and 1,000 threads to a breadth, and *dohars* of all kinds made at Pák Pattan, are much esteemed, and find a ready sale in Amritsar, Lahore, and Multán. A considerable quantity of the products of the local looms is disposed of at the annual fair in the first week of the Muharram. About one-third of the yarn used at Pák Pattan comes from England *viá* Bombay and the Indus. There are two castes of weavers at Pák Pattan, the one called Bhakri, the other Paoli. The difference between them is that the women of the former class weave, those of the latter consider it a disgrace to do so. The women of both castes, but especially those of the Paoli, prepare the web. In 1874 there were ten Bhakri and 20 Paoli women engaged in this work, at which they make about one pice for every mile they go backwards and forwards. There were 124 looms at work, *viz.*, Paolis 78 men and 2 boys; Bhakris 35 men, 6 women, and 3 boys. Thread is spun by women, who are paid in kind. They get 1½ to 2 seers of cotton, and give back one seer of thread. Twenty seers of cotton are carded for one rupee. Pák Pattan has also a high reputation for its lacquered work. Good blankets are said to be made at Malka Hans. Kabula does some little trade with Amritsar in *ghi*; and Pakka Sidhar in cloth with Baháwalpur, and in grain lately, chiefly with Bikáner. It is not possible to do more than guess at the value of the trade of the district. Judging from a few isolated facts, Mr. Purser was, in 1874, inclined to think it about 10 *lakhs* per annum. Of course this is only the value of the exterior trade; transactions between residents of the district are not included.

Pák Pattan weavers.

SECTION D.—PRICES, WEIGHTS AND MEASURES, AND COMMUNICATIONS.

Prices, wages, rent-rates, interest.

Table No. XXVI gives the retail *bázár* prices of commodities for the last twenty years. The wages of labour are shown in Table No. XXVII, and rent-rates in Table No. XXI; but both sets of figures

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Prices, Weights and Measures, and Communications.

Village prices of Agricultural staples.

are probably of doubtful value. Rent rates have already been discussed at pages 77 to 79.

Mr. Purser gives the following statement showing the average annual price of cotton, *jowár*, rice, *kangni*, *chína*, wheat, and gram, in the towns of Dipálpur and Hujra from 1838 to 1871. These prices were taken from the books of the *karárs*, and represent dealings between them and the cultivators. The *karárs* fix the prices twice a year in Hár and Kátik. The average price is the average of prices prevailing at both seasons in both towns. These towns were selected as being in the chief agricultural part of the district:—

YEAR.	Cotton (raw).			*Jowar.*			Rice (unhusked).			*Kangni.*			*China.*			Wheat.			Gram.		
	M.	S.	C.	M.	S.	C.	M.	S.	C.	M.	S.	C.	M.	S.	C.	M.	S.	C.	M.	S.	C.
1838 ..	0	22	0	0	22	0	0	26	0	0	28	8	0	24	0	0	33	0	1	5	0
1839 ..	0	18	8	0	24	0	0	28	0	0	33	8	0	29	4	0	34	0	1	0	0
1840 ..	0	17	8	0	35	0	0	22	0	0	30	0	0	26	8	0	29	0	0	38	0
1841 ..	0	17	0	1	4	8	0	35	0	1	20	0	1	7	8	0	31	8	1	0	0
Average of four years ..	0	18	12	0	31	6	0	28	0	0	38	0	0	31	13	0	31	10	0	39	10
1842 ..	0	13	0	1	9	0	0	35	0	2	35	0	2	10	0	1	10	0	1	17	8
1843 ..	0	18	0	1	22	0	0	32	0	3	0	0	2	25	0	1	7	0	1	20	0
1844 ..	0	19	0	1	2	0	0	34	8	1	30	0	1	15	0	1	2	8	1	11	8
1845 ..	0	19	0	1	5	0	0	35	0	1	35	0	1	20	0	1	0	0	1	11	0
1846 ..	0	21	0	0	35	0	0	35	0	1	21	0	1	14	0	0	36	0	1	10	0
Average of five years ..	0	18	0	1	6	9	0	34	5	2	8	3	1	32	13	1	3	8	1	14	0
1847 ..	0	17	0	0	35	0	1	7	0	1	30	0	1	12	0	0	32	0	1	0	0
1848 ..	0	14	12	0	26	0	0	36	0	1	5	0	0	37	8	1	7	8	1	20	0
1849 ..	0	20	0	0	20	8	0	28	0	0	32	0	0	25	0	0	23	8	0	28	8
1850 ..	0	20	0	1	11	0	1	20	0	1	21	0	1	12	8	0	37	0	1	5	0
1851 ..	0	20	0	1	20	0	1	11	0	2	15	0	1	30	0	1	20	0	2	0	0
Average of five years ..	0	18	5	0	38	8	1	4	6	1	20	9	1	7	6	1	0	0	1	10	8
1852 ..	0	26	8	1	22	8	1	16	0	2	2	0	1	17	8	1	12	8	1	20	0
1853 ..	0	21	0	1	0	0	1	11	0	2	0	0	1	11	0	1	10	0	2	0	0
1854 ..	0	28	0	1	8	0	1	8	0	2	10	0	1	29	0	1	0	0	1	12	0
1855 ..	0	24	0	1	16	0	1	23	8	2	25	0	2	5	0	1	10	0	1	29	8
1856 ..	0	24	0	0	36	0	1	10	0	2	19	0	1	30	0	1	5	0	1	21	0
Average of five years ..	0	24	11	1	8	8	1	13	11	2	11	3	1	26	8	1	7	8	1	24	8
1857 ..	0	16	0	1	20	0	1	19	0	2	10	0	1	30	0	1	10	0	2	5	0
1858 ..	0	16	0	1	12	0	1	5	8	2	0	0	1	25	0	1	15	0	2	10	0
1859 ..	0	14	0	1	0	0	1	2	0	1	20	0	1	10	0	1	11	0	1	30	0
1860 ..	0	11	0	0	22	0	0	26	0	0	33	0	0	27	0	1	0	0	1	10	0
1861 ..	0	18	0	0	30	0	0	25	0	1	19	0	1	0	0	0	27	0	0	32	0
Average of five years ..	0	15	0	1	0	12	0	39	8	1	24	6	1	10	6	1	4	9	1	25	6
1862 ..	0	13	0	1	5	0	0	22	8	1	20	0	1	10	0	0	32	0	1	5	0
1863 ..	0	7	0	1	7	0	1	10	0	1	12	8	1	2	8	1	10	0	1	25	0
1864 ..	0	11	12	0	28	0	0	32	0	1	5	0	0	35	8	1	0	0	1	16	0
1865 ..	0	12	4	0	35	0	0	32	0	1	5	8	1	0	0	0	30	0	1	5	0
1866 ..	0	12	0	0	26	0	0	32	0	1	0	0	0	32	0	0	29	0	1	7	8
Average of five years ..	0	11	3	0	35	3	0	37	9	1	8	9	1	0	0	0	36	3	1	11	11
1867 ..	0	16	0	0	24	0	0	34	0	1	1	0	0	35	0	0	25	0	0	37	8
1868 ..	0	12	0	0	16	0	0	21	0	0	36	0	0	28	0	0	24	0	0	27	8
1869 ..	0	12	8	0	19	0	0	26	8	0	28	0	0	25	8	0	17	0	0	20	0
1870 ..	0	10	0	0	22	8	0	23	0	0	30	0	0	21	8	0	19	0	0	21	8
1871 ..	0	10	0	0	20	0	0	24	8	0	35	0	0	25	0	0	23	8	0	22	0
Average of five years ..	0	12	1	0	20	5	0	25	13	0	34	0	0	27	0	0	21	11	0	25	11
Average, 1842-1856	0	20	5	1	4	8	1	4	2	2	0	0	1	22	4	1	3	9	1	16	5
Average, 1857-1871	0	12	12	0	32	1	0	34	5	1	9	2	0	39	2	0	27	0	1	7	9
Average, 1842-1871	0	16	8	0	39	5	0	39	3	1	24	9	1	10	11	0	35	4	1	11	15

Chapter IV, D.

Prices, Weights and Measures, and Communications.

Recent rise in prices.

"In 1871 Mr. Roe, the Settlement Officer, gave it as his opinion that the increase in price of late years has arisen from a diminished supply, and not from an increased demand. I have lived in the *parganah* during the whole time that these high prices prevailed, and I know from what I have seen with my own eyes, that the condition of the agriculturists has been one, not of prosperity, but of very great distress. It would also seem at first sight that the construction of a railway right through the heart of the district must have greatly benefited the people. No doubt it would have done so, had the agriculturists had any surplus produce to export; but as they had barely sufficient for their own consumption, the opening up of new markets was practically useless. In fact, in one way the railway has injured them; for it has led to a much stricter conservancy of the Government jungle; formerly the *zamíndárs* obtained all the wood they required free or almost free. Now they have to pay for it, and get it with difficulty; besides this the subordinate conservancy establishment greatly increases their indirect taxation."

Value of land.

The figures of Table No. XXXII give the average values of land in rupees per acre shown in the margin for sale and mortgage; but the quality of land varies so enormously, and the value returned is so often fictitious, that but little reliance can be placed upon the figures. On this subject Mr. Purser wrote in 1874:—

Period.	Sale.		Mortgage.	
	Rs.	A.	Rs.	A.
1868-69 to 1873-74 ..	3	5	3	8
1874-75 to 1877-78 ..	5	1	13	3
1878-79 to 1881-82 ..	6	14	5	0

"The low value of land in this district, except where canal irrigation is available, is shown by the difficulty of getting farmers, as well as by the low price at which land is sold and mortgaged. In Pák Pattan it was found that 12,878 acres, paying a revenue of Rs. 3,156, or annas 3-11 per acre, had been sold for Rs. 18,646. This gave the price per acre as Re. 1-2, and per rupee of revenue as Rs. 5-14-7. The mortgaged area was 9,687 acres assessed at Rs. 2,272, or annas 3-9 per acre. The mortgaged money amounted to Rs. 19,081, or Re. 1-15-6 per acre, and Rs. 8-6-5 per rupee of revenue. In Dipálpur, 15,749 acres sold realized Rs. 26,421, or Re. 1-10-10 per acre, and Rs. 6-1-11 per rupee of revenue. The revenue was Rs. 4,319, falling at annas 4-5 per acre. The area mortgaged was 12,028 acres assessed at Rs. 2,964, being at the rate of Rs. 3-11 per acre. The mortgage money amounted to Rs. 30,353, equal to Rs. 2-8-5 per acre, and Rs. 10-3-7 of Government revenue. If it is considered that these prices include not only money paid for the land, but also the cost of wells and other property attached to the land, the very low value of land is at once apparent. More money can be got by mortgaging land than by selling it. It may be that the land mortgaged is more valuable than that sold; but this fact may also be explained by the difficulty of obtaining tenants, and the dread of becoming responsible for payment of the revenue. When land is sold, the buyer becomes responsible for the revenue, and he has to make his arrangements for cultivating the land; but in the case of mortgages, the mortgagor remains, as a rule, responsible for the revenue, and continues to cultivate the land himself, or exerts himself to have it cultivated."

Measure of weight.

Except in towns, the Government maund and seer are not employed in the purchase and sale of grain. A measure of capacity is used, and not one of weight. This measure is the *topa*, and its size varies in different parts of the district. The weight of a *topa* of wheat in each locality is shown in a map attached to Mr. Purser's report. There are 10 different *topas*, and the weight varies from 1 seer 4

Chapter IV, D.

Prices, Weights and Measures, and Communications.

Measure of weight.

chittáks to 3 seers 4 *chittáks*. The divisions and multiples of the *topa* are the *paropí*, *pái*, *man*, *kharwár*, and *máni* :—

4 paropís	... =	1 topa.
4 topas	... =	1 pái.
4 páis	... =	1 man (maund)
10 mans	... =	1 kharwár.
12½ mans	... =	1 máni.

The *kharwár* is used on the Rávi and the *máni* on the Sutlej. The native *man* then is of a fluctuating value according to locality, and one great difficulty in obtaining information concerning yield of crops, amount of seed grain, &c., is the uncertainty as to what *topa* the informant is alluding to. To make matters worse, there are two ways of using the *topa*. In one called *chhara*, when the *topa* has been filled, nothing is added with the hand ; and in the second, called *bharti*, the *topa* is heaped up with the hand. *Topas* are round measures. They are usually made of *ukán* or *karíl*, sometimes of *kíkar*. The differences in the value of the *topa* are due to the country having been split up into numerous petty states, the ruler of each of which set up his own *topa*, partly to assert his independence, and partly it would seem, at least occasionally, to cheat the *zamíndárs* under him.

Measures of length and area.

The *karam* is 5½ feet long. The current scale of square measures is:—

9 square karams	... =	1 kán.
20 káns	... =	1 kanál.
8 kanáls	... =	1 ghomáo.

The *ghomáo* is thus equal to one acre, the *kanál* to half a rood, and the *kán* to a square perch. In measuring distance a term in common use is *sadpandh* (from *sad*, voice, and *pandh*, distance) ; it represents the distance at which a man's voice can be heard in the jungle, and may be roughly estimated as a mile.

Communications.

The figures in the margin show the communications of the district as returned in the quinquennial Administration Report for 1878-79 ; while Table No. XLVI shows the distances from place to place as authoritatively fixed for the purpose of calculating travelling allowance. Table No. XIX gives the area taken up by Government for communications.

Communication.		Miles.
Navigable rivers	Sutlej	92
	Ravi..	95
Railways ..	.. ..	80
Metalled roads ..	.. ..	..
Unmetalled roads	.. ..	1,054

Rivers.

The Sutlej and Rávi are both navigable for country craft throughout their courses within the district, but through traffic on the latter is confined to the portion below the bridge of boats at Chichâwatni ; indeed in the cold weather the Rávi is often perfectly dry in places, especially close above Chicháwatni. The principal traffic on these rivers, as stated in the Punjab Famine Report (1879), is shown in Table No. XXV. The mooring places and ferries and the distances between them, are shown below, following the downward course of each river :—

Rivers.	Stations.	Distance in Miles.	Remarks.
Rávi...	Qillá Bhamá Singh ...	...	Ferry.
	Farídábád	5	Do.
	Majhání	5	Do.

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Prices, Weights and Measures, and Communications.

Rivers.

Rivers.	Stations.	Distance in Miles.	Remarks.
Rávi ...	Jhando	1	Ferry.
	Pír Aly	6	Do.
	Mári	6	Ferry and mooring place.
	Khái	6	Ferry.
	Alam Sháh	1	Do.
	Mehr Sháháná	3	Do.
	Qutab Sháháná	3	Do.
	Hakím ke Káthya ...	8	Do.
	Mohammad Sháh ...	7	Do.
	Chicháwatní	8	Bridge of boats and mooring place.
	Kikrí Patrí	11	Ferry.
Sutlej...	Mohána Fordwáh ...	...	Ferry and mooring place.
	Shekhuke	8	Do.
	Bhilá Maleke	6	Ferry.
	Ahloke	8	Do.
	Malkána	6	Do.
	Bhullá	8	Do.
	Sahuwálí	6	Do.
	Bhuk	8	Do.
	Mádhú	7	Do.
	Jamlerá	5	Do.

There is a considerable traffic on the Sutlej principally from the marts of Ferozepore and Fázilka. This is carried on in large native boats called *tárak*, of considerable tonnage; some being capable of carrying 1,000 maunds. When the wind is favourable, they can sail up the stream; when not, they are towed by men on the bank. The boats have one mast and large lateen-like sails. The length of the Sutlej conterminous with this district is about 109 miles. The successful voyage of a steamer to Ferozepore in September, 1857, shows that even vessels of considerable draught can pass up and down this river without encountering insurmountable obstacles. The traffic on the Rávi is very inconsiderable. Flat bottomed boats are known on the Sutlej as *chappu*, and boats with sloping stems and sterns as *kishti*. The *beri* or boat of the Rávi is of a different build from either of these.

Railways.

The Sindh, Punjab and Delhi Railway, from Lahore to Multán, runs through the district, along the high central ridge, with stations at Satghara, Okarah 8 miles, Pák Pattan 9 miles, Montgomery 14 miles, Harappa 13 miles, Chicháwatni 13 miles.

Roads.

There are no metalled roads; but as there is no wheel traffic, the want is not felt. The district is traversed in all directions by fine broad unmetalled roads, some of which were cut through the jungle at the expense of the people, after the unsuccessful insurrection of 1857.

The principal roads are:—(1). The Customs line road, running from Jamlera on the Multán border, nearly parallel to the Sutlej through Pák Pattan and Haveli to Rohelá Ghát, opposite Fázilka, in the Sirsa district. (2). The Lahore and Multán trunk road, running close to the Rávi, on the left bank of the river. Traffic on this road has greatly decreased since the opening of the railway in 1865; many of the *saráis* along it are in bad condition and others have been closed altogether. But the road itself is in very fair order. (3). The road leading from Jhang, *viâ* Kamália, Harappa, Kabír, and Pák Pattan to the Sutlej. Speaking of it, Lieutenant Elphinstone says:—

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Prices, Weights and Measures, and Communications.

Roads.

"Numerous caravans of merchants from Afghánistán frequent this route during the cold weather. They seldom dispose of their merchandise in the district, but, as far as I could ascertain, this road is generally selected by merchants who are anxious to arrive at their principal mart, Delhi, without the delay which would otherwise attend the unpacking of their wares at intermediate stations."

(4). The road from Harrappa through Montgomery, Dipálpur and Busírpur to the ferry at Rohelá Ghát.* (5). The road from Pák Pattan to Chunián, passing near Dipálpur and through Shergarh. (6). The road from Jhang through Gugerá and Satghara to Wán Rádharám, running thence to Ferozepore. (7, 8, and 9). The roads connecting Montgomery and Pák Pattan, and Gugerá and Pák Pattan and Gugerá and Dipálpur.

Bridges.

There is a bridge of boats over the Rávi at Chíchawatni. The Nikkí is bridged on all the main roads. There are bridges over the Khánwah canal at Hujra, Dipálpur, Náthu Sháh, and Kacha Pakka. There is a bridge over the upper Sohág canal, at Gámá Waghrá, near Busírpur. The state of the roads in canal-irrigated tracts is far from satisfactory. The roads are traversed by deep water-courses, the owners of which have either constructed no bridges, or have laid down a few crooked branches of trees, with slight twigs and leaves filling up the interstices, and have thrown earth over the whole. As soon as the twigs rot, the unwary traveller runs a good chance of breaking his neck, at the same time that his horse breaks the bridge and his own leg. If the canals ran all the year round, this state of things would soon be altered. But in the cold weather, when officers are out in camp, the water-courses are dry, and the sides are sloped down; or else the water-course is filled up; and so the intolerable nuisance these ditches become in the hot weather is not properly appreciated.

Saráis, rest-houses and encamping-grounds.

The district is not well provided with *saráis*. But the traffic is so slight that this want is little felt. There are rest-houses affording accommodation to European travellers in all important places. The accommodation is in some cases far from good.

The following table shows the principal roads of the district, together with the halting places on them, and the conveniences for travellers to be found at each. Communications from Okárah to Fázilka *viâ* Dipálpur are often interrupted in the rains, sometimes for days together by floods on the Sutlej river which is not bridged:—

Route.	Halting places.	Distance in miles.	Remarks.
Multán to Lahore.	Doburji ...	...	*Sarái*, encamping-ground.
	Chíchawatní ...	12	Dák bungalow, encamping-ground and *sarai*.
	Harappa ...	12	*Sarái*, encamping-ground.
	Mohamadpur...	12	Ditto.
	Kaure Sháh ...	13	Ditto.
	Akbar ...	14	Rest-house, encamping-ground and *sarái*.
	Mírak ...	13	Encamping-ground and *sarái*.
	Chúchak ...	12	Ditto.

Saráis, rest-houses, and encamping-grounds.

Route.	Halting places.	Distance in miles.	Remarks.
Jhang to Chíchá-watní.	Kamáliá ... Rajáná ...	... 9	*Sarái.* *Sarái.*
Montgomery to Dipálpur.	Motngomery ... Rakullánwála...	... 13	*Sarái*; dák bungalow. Rest-house.
Gugerá to Jhang.	Báhlok ... Gugerá ...	... 7	*Sarái.* Rest-house.
Ferozpur road...	Satghara ...	...	*Sarái.*
Okárah to Fázil-ká.	Okárah ... Dipálpur ... Basírpur ...	... 15 10	Dák bungalow and *sarái.* *Sarái*, canal bungalow. Ditto.
Basírpur to Ha-velí.	Havelí... ...	...	*Sarái*, police bungalow.
Pák Pattan to Montgomery.	Pák Pattan ... Núrpur ...	... 14	Rest-house and *sarái.* Rest-house.

There are also unmetalled roads from Chíchawatní to Pák Pattan, 54 miles, and Syadwála to Kohlewála *viá* Báhlok and Kamália, 68 miles, on which there are no fixed halting places. The road from Gugerá to Jhang crosses the Rávi river by a *ghát* when the river is in flood. A good unmetalled road runs along the right and left banks of the lower Sohág canal, on which are the following bungalows: Gudar Malkáná, Tahir 19 miles, Laddhewál 7 miles. The dák bungalows are completely furnished and provided with servants. The police and district bungalows have furniture, crockery and cooking utensils, but no servants. The district rest-houses have furniture only; the canal bungalows are unfurnished, the Canal officers bring all necessaries with them. A mail cart runs from Okárah to Fázilká, and another from Chíchawatní to Dera Ismail Khán *viá* Jhang.

Post Offices.

There are 20 Imperial Post Offices—at Montgomery, Kamáliá, Chíchawatní, Tibbí, Harappá, Pák Pattan, Chak Bábá Khem Singh, Basírpur, Hujrá, Dipálpur, Gugerá, Chuchak, Saiyadwála, Bucheki, Shergarh, Chíchawatní town, Jethpur, Atárí, Jandraka and Faridabád. The district Post Office is at Okárah. All the Post Offices, except Buchekí and Shergarh, have Money Order Offices and Savings Banks.

Telegraph.

A line of telegraph runs along the whole length of the railway, with a telegraph office at each station.

CHAPTER V.

ADMINISTRATION AND FINANCE.

SECTION A.—GENERAL ADMINISTRATION.

Chapter V, A.

General Administration.

Executive and Judicial.

The Montgomery district is under the control of the Commissioner of Multán, who is also Sessions Judge, and is stationed at Multán. The ordinary head-quarters staff of the district consists of a Deputy Commissioner, and two Extra Assistant Commissioners. Each *tahsíl* is in charge of a *tahsíldár* assisted by a *Náib.* The village Revenue staff is shown in the margin. The appointment of four *girdáwars* is under consideration before the Financial Commissioner. There is only one Munsiff in the district stationed at Montgomery, whose jurisdiction extends to the whole district. The statistics of Civil and Revenue litigation for the last five years are given in Table No. XXXIX.

Tahsil.	*Qanungos* and *Naibs.*	*Patwaris* and Assistants.
Montgomery	2	33
Gugera	2	33
Dipalpur	2	47
Pak Pattan	2	24
Total	8	137

Criminal, Police, and Jails.

There is one Honorary Magistrate in the district, namely, Bába Khem Singh, C.I.E. The police force is controlled by a District Superintendent Police. There are also two *zaildárs* of police employed in this district for the protection and detection of crime. One has charge over sixty-one villages, and receives a remuneration of Rs. 200 per annum. The other has control over fifteen villages, and gets an allowance of Rs. 150 per annum. The strength of the force, as given in Table No. I of the Police Report for 1881-82, is shown in the margin. In addition to this force, 3 *daffadárs* and 15 *chaukidárs* are entertained as village watchmen; they are paid from municipal income and town *malba.* The rate of their pay is as follows:—*Daffadárs* Rs. 6 each per mensem, *chaukidárs* Rs. 4 each. Besides these there are 91 *sargirohs* in this district, who should assist the police in detecting crime. There are also 76 trackers at Rs. 5 per mensem each, paid by the villages in charge of the *sargirohs.* The trackers work under the supervision of the *sargirohs.*

Class of police.	Total strength.	*Distribution.*	
		Standing guards.	Protection and detection.
District } Imperial }	477	63	414
Municipal ..	11	..	11
Total ..	488	63	425

The *thánás* or principal police jurisdictions and the *chaukís* or police outposts are as follows:—

TAHSIL MONTGOMERY—*Thánás.*—Montgomery, Harappá, Chíchá-wátní, Kamáliá, Killianwálá. *Chaukís.*—Kaure Sháh, Doburjí, Rajáná.

TAHSIL PAK PATTAN—*Thánás.*—Pák Pattan, Tibbí, Kabírwálá. *Chaukís.*—Núrpur and Jamlerá.

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General Administration.

Criminal, Police, and Jails.

TAHSIL DIPALPUR.—*Thánás*—Dipálpur, Hujrá, Atári, Havelí.

TAHSIL GUGERA.—*Thánás*—Gugerá, Báhlok, Saiyadwálá, Bucheki, Chuchak, Okárah. *Chaukís*—Merak, Satghara.

There is a cattle-pound at each *thánd*, also at *chaukís* Kaure Sháh and Satghara, all being under the management of the police. The district lies within the Lahore circle, under the control of the Deputy Inspector-General, Police, at Lahore.

The district Jail is a first class one, containing accommodation for 728 prisoners; convicts up to three years sentence of imprisonment are kept here, longer termed prisoners are transferred to the Central Jail at Lahore. The buildings for accommodation of prisoners in the district Jail are shown in the margin.

Building.	Male	Female.	Total prisoners.
Quarantine ...	40	...	40
Hospital ...	50	4	54
European ward	4	...	4
For minors ...	12	...	12
Solitary Cell ...	84	4	88
Barracks ...	500	24	524
Civil prisoners...	6	...	6
Total	696	32	728

Table No. XL gives statistics of criminal trials, Table No. XLI of police inquiries, and Table No. XLII of convicts in Jail for the last five years. There are no criminal tribes in the district, and the Criminal Tribes Act 27 of 1871 is not in force.

Revenue, Taxation, and Registration.

The gross revenue collections of the district for the last 14 years, so far as they are made by the Financial Commissioner, are shown in Table No. XXVIII while Tables Nos. XXIX, XXXV, XXXIV and XXXIII give further details for land revenue, excise, license tax, and stamps respectively. Table No. XXXIIIA shows the number and situation of Registration offices. The central distilleries for the manufacture of country liquor are situated at Montgomery, Gugerá, Dipálpur and Pák Pattan. The cultivation of the poppy is not forbidden in this district.

Table No. XXXVI gives the income and expenditure from district funds, which are controlled by a committee consisting of 22 members selected by the Deputy Commissioner from among the leading men of the various *tahsíls*, and of the Civil Surgeon and the *tahsíldárs* as *ex-officio* members, and the Deputy Commissioner and Extra Assistant Commissioner as President and Secretary respectively. Table No. XLV gives statistics for municipal taxation, while the municipalities themselves are noticed in Chapter VI. The income from Provincial properties for the last five years is shown below :—

Source of income.	1877-78	1878-79	1879-80	1880-81	1881-82
	Rs.	Rs.	Rs.	Rs.	Rs.
Ferries with boat-bridges .	3,200	3,600	2,835	3,300	3,010
Do. without do. ...	8,380	9,055	7,385	6,517	7,534
Staging bungalows, &c. ...	701	440	366	500	601
Encamping-grounds ...	...	...	...	...	...
Cattle-pounds ...	4,828	3,747	3,416	2,712	2,624
Nazúl properties ...	19	412	94	238	20
Total ...	17,128	17,254	14,096	13,267	13,789

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General Administration.

Revenue, Taxation, and Registration.

The ferries, bungalows, and encamping-grounds have already been noticed at pages 146—149, and cattle-pounds at page 151. There are no *nazùl* properties in this district from which any income is realized.

Figures for other Government estates are given in Table No. XVII, and they and their proceeds are noticed in Section B of this Chapter, in which the land revenue administration of the district is treated of.

Statistics of land revenue.

Table No. XXIX gives figures for the principal items and the totals of land revenue collections since 1868-69. The remaining items for 1880-81 and 1881-82 are shown in the margin. Table No. XXXI gives details of balances, remissions, and agricultural advances for the last fourteen years; Table No. XXX shows the amount of assigned land revenue; while Table No. XIV gives the areas upon which the present land revenue of the district is assessed. Statistics of revenue for past years have been given at pages 42, 43 (Chapter II). Further details as to the basis, incidence, and working of the current Settlement will be found in the succeeding section of this Chapter.

Source of revenue.	1880-81	1881-82
	Rs.	Rs.
Surplus warrant *talabànah*	119	...
Málikána or proprietary dues	1,155	1,267
Leases of gardens and groves	15	...
Fisheries	1,135	945
Dyes	1,279	1,198
Revenue, fines and forfeitures	21	28
Other items of miscellaneous land revenue	57	22

Education.

Table No. XXXVII gives figures for the Government and aided, middle and primary schools of the district. There is no high school in this district. There are middle schools at Montgomery, Kamália, Pák Pattan and Saiyadwálá, and two girl schools at Montgomery and Saiyadwálá ; while the primary schools are situated at Daulá Bálá, Pindí Sheikh Músá, Dadrá, Harappá, Chíchẃatní, and Jhakkar in the Montgomery *tahsíl ;* Gugerá, Jhámrá, Buchekí, Lundiánwálá, Jandráká, Mopálke, Satghara and Farídábád, in the Gugerá *tahsíl* ; Dipálpur, Hujrá, Shergarh, Jethpur, Atári, Kandúwálá, in the Dipálpur *tahsíl*. Besides these there is no other kind of school in this district. The district lies within the Multán circle, and is in charge of the Inspector of Schools at Multán. Table No. XIII gives statistics of education collected at the Census of 1881, and the general state of education has already been described at page 58.

Medical.

Table No. XXXVIII gives separate figures for the last five years for each of the dispensaries of the district, which are under the general control of the Civil Surgeon, and in the immediate charge of Hospital Assistants at Montgomery, Kamália, Dipálpur, Gugerá and Pák Pattan. There is no leper asylum, lunatic asylum, or lock hospital in this district. The Civil Surgeon at Montgomery has Civil charge of the station.

The Montgomery dispensary was established in 1865 ; it is situated in the outskirts of the town of Montgomery, and is capable of accommodating 15 in-door sick—10 males and 5 females. The buildings consist of a female ward, a male-ward, dead-house, European ward, and Hospital Assistant's and servants' quarters. In the centre is the

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Medical.

dispensary and store-room and a garden for vegetables. The establishment consists of one Hospital Assistant in charge, one compounder, and menials.

The sick treated consist chiefly of Government officials and their families, and people from the town. The surrounding country being barren and uncultivated, there are very few agricultural patients.

Kamália dispensary in the town of Kamália, a rather large one, is capable of accommodating 8 in-door sick—4 males and 4 females. It has a large out-door attendance, consisting in great part of people from the surrounding cultivated country; it seems well appreciated by the inhabitants. The buildings consist of a male and a female ward, a dispensing house, and quarters for the establishment; within the enclosure there is a large garden for fruits and vegetables. The establishment consists of one Hospital Assistant in charge, a compounder, and menial. The average attendance last year (1882) was: in-door 5·07 men, 1·07 women, and 0·18 children; and out-door: 29·87 men, 11·45 women, and 22·73 children. The institution is supported partly by municipal and partly by district funds.

Pák Pattan dispensary is capable of accommodating 12 in-door sick—8 males and 4 females; and has a large out-door attendance. The establishment consists of one Hospital Assistant in charge, a compounder, and menials. The average attendance last year (1882) was: in-door 3·17 men, 0·81 women, 0·26 children; and out-door: 25·87 men, 7·72 women, and 8·93 children. The institution is supported partly by municipal and partly by district funds.

Dipálpur dispensary is capable of accommodating 8 in-door patients—4 males and 4 females. The establishment consists of one Hospital Assistant in charge, one compounder, and menials. The average attendance last year (1882) was: in-door 4·69 men, 1·66 women, 0·25 children; and out-door: 26·56 men, 4·85 women, and 6·10 children. The institution is supported partly by municipal and partly by district funds.

Gugerá dispensary is capable of accommodating 12 in-door sick—6 males and 6 females. The establishment consists of a Hospital Assistant, a compounder, and menial. The average attendance last year (1882) was: in-door 3·01 men, 0·45 women, and 0·23 children; and out-door: 11·62 men, 2·49 women, and 2·49 children. The institution is supported by district funds.

Ecclesiastical.

There is a small church at Montgomery capable of seating about 70 persons. No Chaplain is posted here; but the Chaplain of Lahore visits the station occasionally.

Head-quarters of other Departments.

The Sindh, Punjab and Delhi Railway runs through this district. The head officers of this line are the Traffic Manager and the District Traffic Manager, stationed at Lahore and Multán respectively. The Khánwah and upper Sohág canals pass in the Pák Pattan and Dipálpur *tahsíls*, and the lower Sohág and Katora canals in the Dipálpur *tahsíl* towards the south-east of Montgomery. These are under charge of the Executive Engineer Upper Sutlej Division Inundation Canals, stationed at Mámoke in *tahsíl* Chúnian in the district of Lahore. The Superintending Engineer of the canals has his head-quarters at Amritsar. The portion of the Grand Trunk road, between

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Land and Land Revenue.
Head-quarters of other Departments.

Lahore and Multán, north of Montgomery, is in charge of the District Committee. The Executive Engineer Provincial Division Multán is in charge of the public buildings of the district, and is subordinate to the Superintending Engineer at Ráwal Pindi. There are no military buildings in this district. The telegraph lines and offices attached to the Sindh, Punjab and Delhi Railway are controlled by the Telegraph Superintendent at Lahore, and the Post Offices by the Superintendent of Post Offices at Multán. There is no Customs staff in this district. The forests are under the control of the Deputy Conservator of Forests, Multán division.

SECTION B.—LAND AND LAND REVENUE.

The Sikh revenue system.

During the Sikh monarchy this district was held either by important chiefs revenue-free, in return for certain feudal services rendered by them, or was farmed out to *ijàràdàrs*. The latter paid a fixed sum to Government, and made their own arrangements with the villages included in their farm. The *ijàràdàr* either sub-let part of his farm to others, or managed the collection of the revenue himself through agents or *kàrdàrs*. Till Sáwan Mal's time the system of *kan* or appraisement of the crop was the one generally followed. The calculation of the produce involved a good deal of haggling, and the amount entered was usually the result of a compromise. The produce due on account of revenue having been decided, it might be taken in cash or in kind. *Khàlsa* revenue was invariably taken in cash. In other words, the cultivator had to buy from the Government agent the Government share of the produce, commonly at something over the market price. *Jàgìrdàrs* very often took their share in kind. In the *kharìf* harvest, money was generally taken, and grain in the *rabi*. The proprietors of a village were allowed a share of the Government produce as *inàm*. The amount varied very much. It depended on the agreement made by the *kàrdàr*. One yoke was released out of a number agreed on. If one yoke was released for every six existing, the proprietors got one-sixth of the Government grain as *inàm jog*. Besides this, the proprietors got one or more wells or a share in a well, according to the size of the village, exempted from payment of revenue. This exemption was known as *inàm-taraddudàna*, and was a reward for exertion in the extension of cultivation. The conditions of the grant determined who was to enjoy it; occasionally the tenants also got an *inàm*, generally one-eighth of the Government share. The proprietors collected from the tenants either by actual division of the crop, or according to the Government demand, in kind or cash. And when it was customary to take *màlikàna*, they got it in addition. Fixed cash assessments on a whole village were not made, but sometimes a well would be leased for a fixed sum; and isolated wells in the jungle were so leased as a rule. The usual rate was Rs. 10 to Rs. 12; but a good well would pay Rs. 20. Sáwan Mal very frequently practised *batài* or actual division of the crop. *Munshìs* or *mutsaddìs* under the *kàrdàrs* put *thàpis* to watch the stacked grain of every 5 or 6 wells. If the *thàpis* seal was found broken the cultivator was fined. The crop was then divided, and Sáwan Mal took the value of his share in cash. As far as can be ascertained, the system of *inàms* has ceased now entirely. The landowners who have taken the place of the

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Government have abandoned it. As regards Government, the *lambardàri* allowance of 5 per cent. on the revenue represents the *inàm* granted formerly to the proprietors.

Zabti crops.

Zabti crops paid so much per *kanàl*; or were sold standing when the *kàrdàr* took his share of the price; or were treated as ordinary *nijkàri* crops. The usual *zabti* rates were Rs. 8 per acre for tobacco, and Rs. 6 to Rs. 8 for the first year's cotton, and half that for the second year's crop from the same roots. It may be as well to say that these rates mean nothing, for if the fundamental principle of the Sikh system was, that the Government should take as much as ever it could, as often as it could, and wherever it could, the principle that a spade should on no account be called a spade was only second in importance to it, and was much more rarely violated. The advantages of this were, that the people were made to believe that great favours were being bestowed on them, while they were being taxed as heavily as possible; and that the subordinate officials were able to plunder the Government to their heart's content, as no one knew what their accounts meant. Thus a man would be charged Rs. 6 for 6 *kanàls* of cotton. The generous *kàrdàr* remitted half as *inàm*, and then added Rs. 4-1-6 on account of extra cesses. These extra cesses or *abwàb* were levied both in kind and cash. The former class appears to have amounted to one-fourth or one-fifth of the Government share of wheat; and one-sixth of the inferior grains. The cash payments were generally according to a fixed scale. The more important of these extra cesses were the following: *nazar kànjan*, *sardàr thànàdàr*, *topkhàna*, *sarràfi*, *chilkàna*, *jamàbandi* and *khuràk*. The *nazar kànjan* was a tax of Rs. 2 on each *kàmil* well, and derives its name from the upper cross-beam of a well. A *kámil* well was one with 8 yokes of bullocks; and a proportionate allowance was made for every yoke wanting to make up this number. The cess for the *sardàr thànàdàr* was levied at varying rates as the *kàrdàr* saw fit. Of course, the *thànàdàr* did not get it. The cess *topkhàna* was probably meant to aid in keeping up the Sikh artillery; it amounted to Rs. 2 per cent. on each *pakka* well. *Sarràfi* was levied at different rates, and was supposed to defray the cost of testing the money paid as revenue. *Chilkàna* was a charge of one-half anna in the rupee on all cash payments except those made on account of *khuràk*, *sarràfi*, and *tirni*. The Sikhs had several sorts of rupees. The Nának Shahi, struck in S. 1884-85, was the final standard coin. Sixteen English rupees were worth fifteen Nának Shahi rupees. The other rupees were the Hari Singhia or Kashmir rupee, worth 8 annas in the rupee less than that of 1884-85; the rupee of 1837, worth one anna in the rupee less; the Moran Shahi rupee and that of 1860, worth Rs. 2 per cent. less, and the rupee of 1870 and 1872, worth 1 per cent. less. *Chilkàna* was levied to make up the difference between the value of the standard and other rupees. It seems to have been taken on all kinds of rupees. The *jamàbandi* was a charge for preparing the revenue roll. The *kàrdàr* charged what he pleased. *Khuràk* was a cess of 4 annas on each well, and was expended in feeding the *kàchhus* or measurers. Besides these items, one-half anna was charged for each sheep or goat as *tirni*, but cows and buffaloes were not taxed. *Kamà* was a cess levied on artisans, and *ahtràfi* on shop-keepers; the rates varied from Re. 1 to

Abwàb or extra cesses.

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Extra cesses.

Rs. 2-4 on each shop. The principal *abwáb* levied in kind were *Akáli, kharch Brahmin, moharáná,* and *chúngi.* The first amounted to 6 *topas* per well, and seems to have been originally intended for the support of the Amritsar Akális.* The *Brahmin, moharáná* and *chúngi* cesses amounted altogether to 5¼ *paropis* in each *man* of the Government share. It does not appear for what these were originally contrived, nor what *moharáná* means.

Green fodder.

The cultivators were allowed to grow green fodder as tenants are now. The *kárdár* used to claim his *kanál* at each harvest per well; this was known as *khírá.* He either took the *khírá,* or made the cultivator give him grain in exchange at the rate of 16 to 20 *mans* per acre. The *kárdár's man* consisted of 16 *topas,* of 2½ *sers* each. The *ser* weighed 92 rupees.

Transit duties.

Transit duties, called *laga,* were levied on merchandize coming in or going out of a town, whether sold or not. The rates varied, and were, as a rule, fixed with reference to the carriage employed; so much for each camel-load, donkey-load, &c. The right to collect this duty was farmed. The *kárdár* was not the *ex-officio* collector. But he sometimes managed to collect something for himself under this head from the cultivators. This tax corresponds to the present *chúngi.*

Revenue of a well.

It is almost impossible to make out what the Sikhs really used to get from a well. But in settled tracts they seem to have been able to extract between Rs. 50 and Rs. 60 from an average well. Of course the Sikh *kárdárs* looked after the revenue in a very different way to that in which an over-worked *tahsíldár* can; and the cultivators were assisted by the revenue officials much more than they are now. A man who did not exert himself got a very broad hint that if he did not cultivate as much land as was expected, he would have to make way for some one who would. If a man had more land than he could manage, the ruling power never hesitated about making a portion over to another, and gave no compensation. Then the people had to pay only a small amount when the season was bad, and so managed to pull along under burdens which would break them down completely now.

The first Summary Settlement.

The first and second Summary Settlements are thus described by Lieutenant Elphinstone in paras. 95 and 96 of his report:—

"The first Summary Settlement was based on the papers of the former Sikh *kárdárs.* Mr. Cocks, C. S., who superintended this work, having no other data to guide him, naturally fell into some errors as to the capabilities of the different villages. His assessment for the whole district amounted to Rs. 3,70,819,—a sum which could probably have been realised without difficulty from this district if it had been more equally distributed. But the Sikh returns, which formed the ground-work of his assessment, were eminently defective for this purpose, for the following reasons:—1*st,* a system of favouring certain villages and *zamíndárs* universally prevailed under the Sikh rule; 2*nd,* the authority of the Government in that portion of the district owned by the Jat tribes was by no means very secure, and the revenue demand was therefore not strictly enforced for political reasons; and 3*rd,* the amount of produce obtained by *batái* on *sailáb* lands in good seasons by no means represents the amount in cash which could be

* *Kharch* was a charge at the rate of 2 *topas* in the *man* on the Government share of the grain. It was collected to defray the cost of dividing the crops. It is still taken.

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Land and Land Revenue.

The first Summary Settlement.

reasonably demanded from such tracts for a series of years. The sudden fall in prices also, which took place after annexation, and the scarcity of money occasioned by the constant remittances down-country of a large army of foreigners stationed in the Punjab, seriously affected the resources of the people. As, notwithstanding all these adverse circumstances, the reductions given at the time of the second Summary Settlement were by no means very considerable, the *jama* of Mr. Cocks' Settlement may be said to have been rather moderate.

Second Summary Settlement.

"The second Summary Settlement was commenced by Major Marsden in 1852, and amounted altogether to Rs. 3,23,099-12-10, including *jágírs*. The collections and balances of this Settlement form the chief basis of the present revised assessment. The data by which Major Marsden was guided were necessarily somewhat imperfect, but his local knowledge obtained by inspecting personally nearly every estate, and the reliable information he contrived to elicit from *zamíndárs* and former officials, enabled him to adjust the demand with a considerable degree of fairness. In *parganah* Gugerá especially, the relative equity with which the *jamas* had been distributed, was very remarkable. Changes, however, subsequently took place, which materially affected the condition of various parts of the district. In *parganah* Hujra, the alterations on the Khánwah canal reduced one circle of villages to about one-half of their former cultivation, and greatly enhanced the prosperity of others, which previously had derived no benefit from the canal. In *parganah* Gugerá, the *sailáb* of the Rávi gradually diminished in the whole tract north of the *sadr* station; and in *parganah* Pák Pattan a similar change occurred in a portion of the *sailáb* land. *Jágír* estates were not brought under assessment, as the *jágírdárs* continued to realise by *batái*. No modification was made in the assumed value at which they had been estimated at annexation. I mention this circumstance, because the reductions of *jama*, now apparent in two *parganahs*, are in great part made up of alterations in the assessment of these *jágír* estates, their original or estimated values having been found, without exception, far above their present capabilities. In addition to the returns of former collections and balances, Major Marsden was aided by rough measurements conducted through the agency of the *tahsíldárs* and *kánúngos*. No attempt was made to record separate fields or other details of cultivation, and the whole process had very little pretension to accuracy, but it was, no doubt, often useful as a means of comparison with other sources of information."

The Regular Settlement.

In 1852, Mr. Vans Agnew was sent to Hujra to commence the regular Settlement. He submitted a report on the assessment of *tahsíl* Hujra, which proposed a fluctuating revenue for canal and *sailába* lands. His proposals were unfortunately rejected. Early in 1856, Lieutenant Elphinstone was placed in charge of the Settlement. He assessed the whole district. "From the estimated gross produce "per acre, the proprietor's share, varying from one-half to one-sixth, "was deducted, and after allowing 25 per cent. for extra expenses "and 10 per cent. for the loss of conversion into cash, two-thirds of "the remainder were assumed as the Government demand and "entered as produce rates." Wells in tracts where cultivation mainly depended on them, were divided into three classes; "the 1st class "consisted of *pakka* wells with six and eight yokes and an area of "from 30 to 50 acres of well-land; the 2nd class of wells with four "or five yokes and from 20 to 30 acres of well-land; and the 3rd class "with a less number of yokes than four, and a very limited extent "of irrigated area."

Assessment data.

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Land and Land Revenue.

Assessment circles or *chaks*.

Revenue rates.

The *parganahs* were divided into assessment circles or *chaks*, chiefly with reference to "the nature of the irrigation, and, to some "extent, * * * the peculiarities of soil and productiveness which "prevailed in different tracts."* As cash rents did not exist, the revenue rates were calculated in the following manner. The villages in each *chak*, which were generally admitted to have been fairly assessed, were selected; and the Settlement Officer satisfied himself that general opinion was correct. The cultivated area of these villages was divided into classes according to the prevailing mode of irrigation, as *sailàba*, *chàhi*, *nahri*, and *bàràni*. The relative value of these classes was ascertained from the *zamìndàrs*. In *tahsìl* Gugerá, *bàràni* was valued at one-half *chàhi*, in Pák Pattan and Hujra at not more than one-fifth or one-sixth. The total *jamas* were next distributed over the classes of land according to the ascertained relative value of the latter. The average rate per acre, thus obtained for each class in the standard estates, was applied to the same class in the other states, and the *jama* thus obtained constituted the revenue rate *jama* of each village.

Soil-rates.

Soil-rates were not fixed, partly because the returns of soils were inaccurate, and partly because productiveness depends but little here on the natural qualities of the soil itself. The fact of the soil being good or bad was, however, kept in view in assessing the individual villages.

Canal assessments.

The villages irrigated by the inundation canals in the Sutlej *tahsìls* were assessed at a lump sum, which the Settlement Officer divided into two parts—*màl* or land revenue, and *àbiàna* or water-tax. The *màl* was never to be remitted, even if the canals failed; but a partial remission of the *àbiàna* was admissible.

Financial result of the Regular Settlement.

The total amount of the Regular Settlement *jamas* was Rs. 3,40,984-4. This included Rs. 25,110 on account of *àbiàna*, and Rs. 16,039 on account of *jàgìr* villages. Since the second summary Settlement, 20 villages paying a revenue of Rs. 4,082 had been transferred from Lahore to the Gugerá district. Their *jamas* are included in the above total.

Ill success of the Regular Settlement.

The Regular Settlement did not work satisfactorily. The revenue imposed by it was not heavy; but the Settlement did not get fair play. It had been sanctioned for 10 years, and at the end of that period the condition of part of the district was so bad that it was considered advisable to commence the revised Settlement at once. The principal changes in the circumstances of the district and their causes are noticed below. The number of villages and areas of the Settlement of 1857 are given below, the figures being recast so that the *tahsìls* correspond with those now existing :—

Name of *tahsil*.	Number of villages.	AREA IN ACRES.								
						Cultivated.				
		Maafi.	Barren or waste.	Culturable.	Lately thrown out of cultivation.	Irrigated.	*Sailaba.*	*Barani.*	Total.	Total area.
Gugera ..	370†	1,877	19,341	121,987	13,222	39,033	87,762	8,976	85,771	242,198
Montgomery ..	271†	1,544	10,455†	100,701†	8,718	18,456	67,721	2,504	88,681	210,109
Pak Pattan ..	360†	1,002	22,804	136,694	32,281	38,757	13,499	6,144	58,380	251,161
Dipalpur ..	452†	3,366	23,344	228,784	25,282	119,307	37,603	19,266	176,176	456,952
District Total ..	1,453†	7,799	75,944	588,166	79,503	215,533	156,585	36,890	409,008	1,160,420

* These assessment circles, with the rates adopted, are shown in a map attached to Mr. Purser's Settlement Report.

† These figures are doubtful.

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Ill success of the Regular Settlement.

The following figures show the state of things as ascertained by the measurements of 1874 :—

Name of *tahsil.*	Number of villages.	AREA IN ACRES.								
		Maqf.	Barren or waste.	Culturable.	Lately thrown out of cultivation.	*Cultivated.* Irrigated.	*Sailaba.*	*Baráni.*	Total.	Total area.
Gugera ..	549	819	26,387	144,514	20,659	36,852	21,471	8,056	66,379	258,758
Montgomery ..	493	1,287	16,506	130,591	16,882	16,646	41,850	1,134	59,630	224,896
Pak Pattan ..	512	552	32,636	182,542	23,071	33,423	9,802	6,079	49,304	288,075
Dipalpur ..	612	2,053	47,699	229,526	33,689	170,645	9,289	9,629	189,563	502,530
District Total ..	2,166	4,711	123,228	687,143	94,301	257,566	82,412	24,898	364,876	1,274,259

From this it appears that the number of villages had increased by one-half and the total area by 113,839 acres, or nearly 10 per cent. The irrigated area had increased by 42,033 acres, or 19·5 per cent. On the other hand, there had been a falling off of—

74,173 acres, or 47·4 per cent. in the *sailába* cultivation ;
11,992 ,, ,, 32·5 ,, of *báráni* cultivation ; and of
44,132 ,, ,, 10·8 ,, of total cultivation.

The causes of these changes were :—(1). Grants of waste land and location of new estates on them. (2). Extension of the inundation canals. (3). Failure of the river inundations. (4). Bad seasons. The punishment inflicted in the Mutiny (see page 39) no doubt affected the prosperity of some of the villages; and particularly of the Joya estates on the lower Sutlej.

Changes in population.

Before considering these causes the changes in the population of the different *tahsíls* may be noticed. The Census of 1854 showed the population to be 308,020. Adding 3,302 on account of villages received, and deducting 1,826 on account of villages transferred, there remain 309,496 persons as the former population. The following table shows its distribution and the subsequent changes :—

Name of *tahsil.*	POPULATION.		INCREASE.	
	Formerly.	By Census of 1868.	Number.	Percentage
Gugerá ...	81,067	95,410	14.343	17·7
Montgomery ...	72,940	76,453	3,513	4·8
Pák Pattan ...	53,208	57,735	4,527	8·5
Dipálpur ...	102,281	129,839	27,558	27·0
District Total ...	309,496	359,437	49,941	16·13

The population remained stationary in the cis-Rávi *sailába* tracts of Montgomery, and in the well-irrigated Shergarh circle in Dipálpur; otherwise there was a general falling off in the *sailába* tracts, and a considerable increase in the well-irrigated and canal circles. The increase in the parts of Dipálpur and Pák Pattan

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Land and Land Revenue.

Grants of waste lands. Injurious results.

irrigated by the canals was especially large. It was in these parts that most of the grants alluded to above had been made.

These grants were allotments of Government waste lands. They were made either to men of the district or to outsiders who were supposed to have claims on Government. In the former case they were scarcely ever of large extent. The area allowed was 50 acres if the applicant proposed to sink a single-wheeled well, and 100 acres if a double-wheeled well was to be constructed. In the latter case, the grants were rarely small, but ranged from 500 to several thousand acres. Sinking wells was quite a secondary consideration here. These applicants would have turned up their noses at land where canal-irrigation was not available. What they wanted was a nice bit of low-lying land, with a *jama* of a few annas an acre, and as much canal water at 8 annas an acre as they chose; and they generally got it. Of course they would not cultivate themselves, so they had to look out for tenants, and the simplest—indeed the only—way to get tenants was to decoy them away from the old established villages. To get an advance of money, to be under the protection of a man on good terms with the district officers, to have fine new land and lots of canal-water with rent below the average, were great things for the tenants; and so he left his old landlord to shift for himself and settled with the grantee. No wonder things looked very well at first. There was an increase of revenue and an apparent increase of cultivation. It was not long, however, before the mischief that was being done was perceived. The migratory character of the tenant population has already been noticed at page 76. From the earliest days of our rule it had been a subject of anxiety to the revenue officers, and had repeatedly been brought to the notice of the authorities. Still grants were made, till in a district where barely one-third of the area within village limits was under the plough, about 113,000 acres more were added to the lands clamouring for cultivators to till them. When the injurious effect of these new grants on the older villages became clear, it was proposed to remedy them, not by stopping the grants, but by putting heavy burdens in the shape of revenue, and price of timber cleared away, on the lessees. But there was a mania for acquiring land in those days; and land anywhere near the canal would have been taken on any terms. So this plan had little success in stopping applications. It succeeded, however, in ruining the applicants. The supply of water in the canals was not unlimited; and the later comers found it more difficult to get any; the land near the canal had been appropriated, and more unfavourably situated plots had to be accepted. The little capital of the applicants was swallowed up in paying an exorbitant revenue, instead of being spent in sinking wells and making the land yield some return. In 1872, the Punjab Government directed that in future grants should be made only in special cases and after reference to Government. On inquiry during Settlement operations in 1874 it appeared that 182 estates were lying uncultivated, or more than one estate in every twelve. Of these, 102 were new grants. A few of the grants were then resumed on the lessees refusing to take up the new *jamas*. There were then 1,953 wells lying idle, which could have been

brought into use at a small cost, and would have given employment to 9,765 cultivators and 11,718 yoke of bullocks.

Extension of the inundation canals.

The great demand for land was, no doubt, chiefly caused by the extension of the inundation canals, and the enormous profits made by those who were lucky enough to have land within the influence of the new supply of water thus provided, which was freely distributed at 8 annas an acre, no matter what crop was grown. While the Khánwah and the upper Sohág canals were being extended, and the people on their banks were, in most places, making their fortunes, the villages on the lower Sohág were being ruined. Their case is instructive, and shows how light *jamas* are no certain guard against deterioration. At the Regular Settlement, 26 villages on this canal were assessed at Rs. 3,613 *mál* and Rs. 1,209 *abiána*. The cultivated area was 9,363 acres. In 1860-61, Rs. 20 per cent. were taken off the *mál jama* and added to *abiána*. This did no good. In 1866 the cultivated area had fallen to 2,652 acres, and a new assessment became necessary. The revenue was reduced 33 per cent. and the *abiána* made fluctuating. Even in 1874 many of these villages were in bad condition.

Failure of the lower Sohág canal.

Failure of sailáb.

It is, however, unlikely that the extension of the canals or the grants of waste lands would have done any serious mischief anywhere had the *sailáb* not failed. If the *sailáb* were to re-visit the river villages, all the well-irrigated villages would break down at once. All the cultivators would be off to the rivers. The tenants in canal villages would hesitate at first, but if the *sailáb* showed signs of permanency, they would go too. Canal water is simply *sailáb* under more or less control, with advantages and disadvantages due to this control. On the canal, as a rule, only autumn crops can be raised and brought to maturity with canal water; cultivators have to pay for this water and to assist in clearing out the water-courses. On the river, they escape the labour and payment, and can raise the more valuable spring crops. And in addition, the lands along the river offer better grazing grounds than do the more inland tracts. In 1871, when the Khánwah failed, and there was an unusual amount of *sailáb* on the river-banks, in the one village of Dipálpur 70 tenants abandoned their holdings and settled in river villages. The nature of the seasons has already been discussed at page 15.

Rise in prices.

The great rise in prices, which had taken place in this district as well as elsewhere, deserved the most attentive consideration. Where rents are not paid in cash, but in kind, without any reference to the money value of the share received by the landlord, the rise or fall in prices is even more important to the person fixing a money assessment than it is in tracts where cash rents are the rule. The figures have been given already at page 144. The period of 15 years, from 1842 to 1856, may be looked on as that the prices of which would have been regarded at the Settlement of 1857; and the second period, from 1856-71, as subsequent to that Settlement. The percentage of rise, in the second period, of average prices over those of the first period is, as regards—

Cotton	...	37 p. c.		*China*	...	37 p. c.
Jowár	...	28 " "		Wheat	...	37 " "
Rice	...	22 " "		Gram	...	15 " "
Kangni	...	39 " "				

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Land and Land Revenue.

Landlord's share of produce formerly and now compared.

On this point Mr. Purser wrote in 1874:—

"Another question which arises is, whether the landlord's share of the produce is large or smaller now than it used to be. Of course, the decrease in cultivated area causes the actual income of the landlords to be smaller; but does the income in kind now enjoyed by the proprietors bear the same proportion to that they enjoyed at last Settlement as the present cultivated area does to the area then cultivated? I think, if anything, it is less. More fodder has to be grown than formerly; for cultivation has to a great extent forsaken the rivers where natural fodder was abundant, and has increased in the inland part of Dipálpur, where pasturage is scanty. Again, the productive powers of the land cannot have been improved by ten or twelve years' more cropping. And the new grants have tended to reduce the share of the produce obtained by the proprietors. No doubt, canal cultivation has to a considerable extent been substituted for *sailáb* and *báráni* cultivation. Probably the canal is superior to the *sailáb*; though usually the *kharíf* cannot hold its ground against the *rabi*; the change, as regards the *báráni* cultivation, is certainly for the better. In any case, as regards this matter, there is nothing to warrant an increase of assessment."

Revision of Settlement, 1874 A.D.

In 1868 a revision of the Revenue Settlement was commenced under the superintendence of Mr. Roe, who assessed the Gugera and Montgomery *tahsíls*. In 1870 Mr. Purser was put in charge, who completed the work, and reported upon it in 1874. Owing to the fact that the assessment was made by two different officers, and that changes were introduced during the operation in the system of Settlement, the processes and results cannot be presented in as compact a form as is possible in the case of most other districts. But the following paragraphs, taken from the final report by Mr. Purser, give the most important facts. Pages 156 to 219 of that report contain most detailed accounts of the several assessment circles, of their condition at Settlement, and of their past history, and of the basis and nature of the assessment of each.

Tahsil Gugera. Assessment circles.

The assessment circles into which Mr. Roe divided the Gugera *tahsíl* are—

Cis-Rávi.—(1). Bet Purana Gugera—land depending mainly on *sailáb* from the Rávi, and lying next the Montgomery *parganah*.
(2). Bet Urár—land depending mainly on *sailáb* from the Rávi, and lying next the Lahore district.
(3). Shumali Ganjí.—high *bángar* land depending entirely on wells; adjoining Bet Urár, but further inland.
(4). Ganjí Khas } containing only a few scattered wells in the *bár*.
(5). Ganjí Janúbi }

Trans-Rávi.—(1). Bet Pár—the *sailáb* of the Rávi.
(2). Chahi Pár—lands lying between the Deg and Rávi.
(3). Deg—lands watered by the Deg.
(4). Sandal *bár*—containing scattered wells.

Tahsil Gugera-Assessment.

The table at the top of the opposite page shows Mr. Roe's assessment of *tahsíl* Gugera. The initial demand shown in the last column was to be increased after ten years by some Rs. 4,000. No revenue rates appear to have been used in this assessment. Taking the *tahsíl* as a whole, there was an immediate reduction of Rs. 3,681, or 4·7 percent. on the demand for 1870-71. Extra cesses reduced the decrease little more than one per cent., while the addition of local rates made the actual result an enhancement of the burden on the land.

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Tahsil Gugera, assessments.

Name of *chak*.	*Jama* of 1870-71	*Estimates.*				*Proposed by Settl. Officer.*	*Fixed by Settl. Commissioner.*
		Tahsil-dar's.	Produce.	Plough.	Rate.	Initial.	Initial.
Bet Purana Gugera	18,656	16,670	22,492	16,950	18,069	16,608	17,423
Bet Urár ...	12,873	13,306	14,538	13,122	11,645	11,948	12,697
Shumali Ganjí ...	6,244	6,129	8,025	7,320	5,118	5,894	6,193
Total Cis-Rávi ...	37,773	36,105	45,055	37,392	34,832	34,450	36,313
Bet Pár ...	21,744	20,835	22,861	20,376	16,105	18,845	19,815
Deg ...	7,041	7,277	9,747	8,512	6,638	6,578	7,027
Chahi Pár ...	4,595	5,037	6,255	4,536	3,875	4,300	4,540
Sandal Bár ...	477	480	457	450	399	397	430
Total Trans-Rávi ...	33,857	33,899	39,320	23,874	27,017	30,120	31,812
Total ...	71,630	70,004	84,375	71,266	61,849	64,570	68,125
Scattered Wells.							
Bet Purana Gugera	1,131	1,041	1,705	2,080	1,710	1,043	1,138
Shumali Ganjí ...	1,823	1,689	2,537	2,148	903	1,548	1,625
Ganjí Khás ...	165	60	50	64	45	150	160
Ganjí Janúbi ...	109	109	359	264	135	107	109
Deg ...	1,681	1,750	2,955	2,792	1,413	1,670	1,721
Chahi Pár ...	149	160	292	174	200	159	160
Sandal Bár ...	1,343	1,372	1,997	2,770	960	1,286	1,312
Total Wells ...	6,401	6,181	9,895	10,292	5,366	5,963	6,225
Total *Parganah*...	78,032	76,185	94,270	81,558	67,215	70,533	74,350

Tahsil Montgomery. Assessment circles.

The assessment circles into which *tahsil* Montgomery was divided are thus described by Mr. Roe, in allusion to Mr. Elphinstone's division into four circles, consisting respectively of the *sailáb* and *chahi* lands on either side of the river :—

"A re-arrangement has been made of the assessment circles. In the alluvial or Bet *chaks*, as they are now called, it was found by experience that at each end of the *parganah* the estates were superior to those in the middle ; accordingly on the Gugera side, the Bet Nur Shah circle, and on the Multán side, the Bet Chíchówatni circle, were marked off. Each of these circles contain lands on both sides of the river. The alluvial land in the centre forms two more Bet *chaks*, the trans-Rávi the Bet Pár *chak*, and the cis-Rávi the Bet Harappa. As regards the well *chaks*, all the trans-Rávi wells lying beyond the Bet *chaks* have been formed as before into one assessment circle, which is called the Sandal Bár circle. On this side of the Rávi, the former *chak—chahi*—Harappa has been divided into three circles, the wells being grouped according to their situation with reference to the high ridge of the Ganjí Bár ; those lying to the north of this ridge forming the Ganjí Shumali *chak* ; those to the south, the Ganjí Janúbi, and those on the ridge itself, the Ganjí Khás. These *chaks* are merely a continuation of the Gugera *chaks* of the same name."

Tahsil Montgomery assessment.

The table at the top of the next page shows Mr. Roe's assessment. No revenue rates appear to have been framed. Taking the *tahsil* as a whole, there was a decrease in the initial assessment of Rs. 6,219, or 7 per cent., which extra cesses reduced to 3·5 per cent. But the demand was to be increased by Rs. 4,551 after ten years.

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Tahsil Montgomery, Assessment.

Name of *chak*.	Demand of 1870-71.	Estimates.					New Initial.
		Tahsildár.	Ex. Assist. Commr.	Plough.	Produce.	Rate.	
1. Bet Nur Shah ...	30,067	30,137	28,270	22,787	33,545	24,794	28,461
2. Bet Chíchâwatni ...	4,999	5,310	5,300	8,469	6,384	6,476	5,357
3. Bet Harappa ...	17,340	17,622	20,020	25,200	24,310	19,284	18,597
4. Bet Pár ...	26,035	23,914	20,377	23,598	15,987	14,858	19,814
5. Ganjí Shumali ...	2,647	2,720	2,745	3,682	2,644	2,393	2,810
6. Ganji Janubi ...	509	543	480	678	640	375	540
7. Sandal Chahi ...	2,339	2,359	2,370	2,120	2,495	2,055	2,153
8. Ganjí Khas ...	238	278	391	132	74	106	223
Total ...	84,174	82,883	79,953	86,666	86,079	70,341	77,955

Tahsil Dipálpur, Assessment circles.

The assessment circles into which Mr. Purser divided Dipálpur are thus described by him :—

"Lieutenant Elphinstone's 5 assessment circles were:—1st, the river *chak* or villages benefiting from the overflow of the Sutlej ; 2nd, *chak* Basírpur, or tract between the Khánwah canal and river *sailáb* ; 3rd, *chak* Hujra, or villages irrigated by the upper portion of the Khánwah canal ; 4th, *chak* Dipálpur irrigated by the southern portion of the Khánwah ; 5th, *chak* Shergarh, a circle of villages irrigated by wells in the north-western part of the *parganah*. The villages transferred from Chunian were not included in any of those circles. At the present Settlement, the river *chak* was broken up into two circles, the Sutlej *chardi* and Sutlej *lahndi*. There is much more *báráni* and less *sailába* cultivation (in the former), and the population is more purely Wattu than in the latter. The Bet *cháhi* circle corresponds closely with the Basírpur *chak*. There are many new estates in it, and a considerable area is irrigated by the two Soház canals. But the mainstay of the cultivation is well-irrigation. There is a large proportion of Wattu villages in this tract. The Naya Nahri *chak* consists of new estates and some of the transferred Pák Pattan villages, at the end of the Khánwah canal. Khatrís, Kambohs, Aroras and Arains predominate here. The Purana Nahri *chak*, so called to distinguish it from the newer circle, corresponds to the former Hujra and Dipálpur *chaks*. Most of the estates are owned by the same tribes as in the Naya Nahri *chak*, but the agriculturists out-number the traders here, while the contrary is the case as regards the new circle. In both these *chaks* there is much *sikand* soil. Elsewhere *gasra* is more common. The Shergarh *chak* has been retained. Another *chak*, the Ganjí Janubi, has been formed out of some of the Pák Pattan villages and new grants in the western corner of the *tahsíl*. This *chak* is undeveloped ; water is much deeper from the surface than in Shergarh ; the agricultural population consists chiefly of Kambohs and Arains. There are some Aroras. In Shergarh most of the estates are owned by Saiyads. The Chunian villages have been incorporated with the *chaks* adjoining them."

Tahsil Dipálpur. Rates and assessments.

Mr. Purser thus describes the rates and assessments of the Dipálpur *tahsil* :—

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Tahsil Dipálpur. Rates and assessments.

The rates adpoted in the non-canal tracts were :—

Name of *chak*.	Plough rate.	Revenue Rates		
		On wells.	On cultivation.	On *jadid*.
Sutlej *lahndi* ...	Rs. 7	Rs. 10	As. 12-0	As. 4-0
Sutlej *chardi* ...	" 7	" 10	" 10-0	" 4-0
Shergarh ...	" 5	" 10	" 8-0	" 4-0
Ganji Janubi ...	" 5	" 10	" 6-0	" 4-0

In the canal *chaks* the rates adopted were :—(1). A *banjar* rate of one anna on each acre of culturable and *jadid* of the *málguzári* area. (2). A *báráni* rate of eight annas on each acre of *báráni* cultivation. (3). A well rate of Rs. 50 on each double-wheeled well, and Rs. 30 on each single-wheeled well in the Purana Nahri *chak*; of Rs. 45 and Rs. 25 on double and single-wheeled wells, respectively, in the Bet Cháhi *chak*; and of Rs. 40 and Rs. 22-8 in the Naya Nahri *chak*, on the same classes, respectively, of wells. The points considered in fixing these rates were the depth of water from the surface, the number of yokes, the character of the agricultural tribes, and the date of construction of the wells, as regards the likelihood of trenching on capital or not.

Proposed revenue rate *jama*.

"The demand at sanctioned rates amounted to Rs. 1,15,050-8, made up thus :—

	Rs.	A.	P.
Purana nahri	47,390	1	0
Bet chahi	34,064	12	0
Naya nahri	3,027	11	0
Sutlej lahndi	14,906	0	0
Sutlej chardi	9,600	0	0
Shergarh	4,813	0	0
Gunji janubi	1,249	0	0

Canal revenue.

"The canal revenue was in future to fluctuate. So only an estimate of its amount could be made. Our return showed in the whole *tahsil* 59,146 acres of *nahri*, and 35,120 acres of *chahi nahri* land. A total of 94,266 acres benefited from the canals. The canal returns showed an average irrigation of about 10,000 acres less. In my report on the new system of assessing canal lands, I assumed the canal area at 60,000 acres, cultivated with the different crops in the proportion given by Mr. Palmer, the Superintending Engineer. The estimated income was Rs. 1,02,312 on 60,000 acres. I retained this estimate, because I anticipated a considerable falling off at first in canal cultivation, owing to the new and increased rates, and a permanent falling off in the area under the highly taxed rice, which would cause a reduction in the income, even if the place of rice were taken by another crop, though the measurements would have warranted a more sanguine estimate.

Estimated results of new rates.

"The estimated results of the new assessments were a net increase of Rs. 63,390, and may be shown thus :—

	Rs.
Present fixed land revenue	1,09,287
Present fixed *ábiána*	37,106
Fluctuating *ábiána*	7,579
Present revenue	1,53,972
Proposed fixed revenue	1,15,050
Estimated fluctuating revenue	1,02,312
Estimated revenue	2,17,362
Increase	63,390

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Land and Land Revenue.

Jamàs actually announced.
Progressive *jamàs.*

"The *jamas* actually announced differed somewhat from those proposed. The total revenue announced was Rs. 1,16,031, giving an increase over the proposed *jama* of Rs. 981. A reduction of Rs. 954 beyond the estimate had to be given in the Sutlej *chardi chak.* Progressive *jamas* amount to Rs. 391 after 5 years; Rs. 3,659 after 10 years; Rs. 76 after 15 years. The *kàmil jama* then will be Rs. 1,20,157, a net increase of Rs. 10,742-1 over the revenue of S. 1930 (A.D. 1873-74). Progressive *jamas* are caused chiefly by the non-expiry of the periods of lease of new grants.

Cesses.

"The cesses have been increased by Rs. 2-8 per cent. as in Pák Pattan; and besides, the *patwàris'* pay has been fixed at a uniform rate of Rs. 5 per cent. It averaged formerly Rs. 4-4 per cent. The cesses now amount to Rs. 20-12 per centum."

Tahsìl Pák Pattan. Assessment circles.

The assessment circles into which Mr. Purser divided *tahsìl* Pák Pattan are described in the following extract:—

"Lieutenant Elphinstone divided the *tahsìl* into four assessment circles or *chaks:* the *nahri*, consisting of villages within the influence of the canal; the *chàhi*, consisting of inland villages, completely out of the influence of the canal or river; the *sailàba*, a narrow strip along the Sutlej; and the *mashmùlà sailàba*, a group of villages near the centre of the *tahsìl*, between the *sailàba* and *chàhi chaks*, which occasionaly got some *sailàb*, and in which the soil was kept moist, by the vicinity of the river. These divisions were practically maintained at the present Settlement; for though the *sailàba chak* was divided into two circles, the Sutlej *chardi* and *lahndi*, and the *chàhi* was divided into the *mutafarrik* and *bàngar cháhi chaks;* yet, in both cases, the differences in the sub-divisions were not such as to call for different revenue rates. The *chaks* formed at the present Settlement were the *nahri;* the Sutlej *chardi* and *lahndi;* the *bet cháhi*, corresponding to the old *mashmùlà sailàba*; the *bàngar chàhi* forming the eastern portion of the old *chàhi chak;* while the western portion was represented by the *mutafarrik chàhi* circle. I do not think the Bet *chàhi chak* derives any benefit now from the river. The soil in the *bàngar chàhi chak* is rather inferior to that in the *mutafarrik chàhi chak*, but water is 9 feet nearer the surface. In the Sutlej *lahndi* circle the people are mostly Joyas; in the Sutlej *chardi* circle, Wattùs. The former is not so settled as the latter, and has better grazing grounds."

Tahsìl Pák Pattan Rates and assessments.

The assessment of *tahsìl* Pák Pattan is thus described by Mr. Purser:—

"For revenue rates I assumed the following:—

Name of *chak.*	Plough rates.	Revenue Rates.			Rate at which revenue rate *jama* falls on cultivated acre.
		On wells.	On cultivation.	On *jadid.*	
					Rs. A. P.
Nahri ...	Rs. 7	Rs. 10	As. 10-0	As. 4-0	0 15 4
Sutlej *lahndi* ...	" 7	" 10	" 12-9	" 4-0	1 0 3
Sutlej *chardi* ...	" 7	" 10	" 12-0	" 4-0	0 15 1
Bet chàhi ...	" 6	" 12	" 8-0	" 4-0	1 0 4
Bangar chàhi...	" 5	" 10	" 6-0	" 4-0	0 14 6
Mutafarrik chàhi	" 5	" 10	" 6-0	" 4-0	1 0 7

"In the following form are shown the principal *jamas* considered in assessing, with the rates at which they fall on the area of cultivation:—

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Tahsil Pák Pattan. Rates and assessments.

Name of *chak*.	At former rates on cultivation.		At ½ gross produce.		At ½ net assets.		At proposed plough-rates.		At rates of rent roll of S 1928.		At proposed revenue rates.	
	Jama.	Rate.	*Jama.*	Rate.	*Jama.*	Rate.	*Jama.*	Rate.	*Jama.*	Rate.	*Jama.*	Rate.
Nahri ..	5,629	0-13-0	9,875	1-7-1	6,784	0-15-1	6,209	0-14-6	5,894	0-13-9	6,543	0-15-4
Sutlej *lahndi* ..	8,175	0-14-0	12,127	1-4-9	8,878	0-14-4	9,982	1-1-0	10-941	1-2-9	9,466	1-0-3
Sutlej *chardi* ..	8,284	0-15-5	11,310	1-5-1	7,273½	0-15-1	10,703	1-3-11	8,907	1-0-7	8,121	0-15-1
Bet chahi ..	11,814	0-12-5	22,464	1-7-7	14,247½	0-14-3	15,372	1-0-2	16-483	1-1-4	15,524	1-0-4
Bangar chahi ..	3,263	0-9-2	7,639	1-5-5	4,397½	0-12-4	6,275	1-1-7	4,548	0-12-9	5,159	0-14-6
Mutafarrik chahi	2,814	0-12-6	5,697	1-9-4	3,476½	0-15-5	4,525	1-4-1	4,422	1-3-8	3,728	1-0-7
Total ..	40,059	0-13-0	69,112	1-6-5	44,556½	0-14-5	53,066	1-1-2	51,195	1-0-7	48,541	0-15-9

"The *jamas* in the canal circle do not include the *abiàna* it was proposed to take in future. The revenue rates submitted for sanction gave a decrease of Rs. 2,654 on the rent-roll of A.D. 1871-72, or about 5 per cent. These proposals were sanctioned for all the circles, except the *nahri*, by His Honor the Lieutenant-Governor. As regards the *nahri* circle, orders were issued to adopt the plan proposed for the Dipálpur canal tracts and already described. The rates finally adopted in the *nahri* circle were one anna per acre on culturable and *jadid*, annas 8 per acre on *bàràni* cultivation, and Rs. 40 on each double-wheeled well, and Rs. 20 on each single-wheeled well.

Revenue finally assessed.

"In this final assessment I did not go so low as the revenue rate *jama*; but assessed the *tahsíl* at Rs. 50,353, being a reduction of Rs. 1,772 on the rent-roll of S. 1929. In the *nahri* circle the introduction of the new system of canal rates resulted in a decrease of Rs. 521, instead of an increase of Rs. 649 given by the revenue rates first proposed. This reduction is merely nominal, and will be more than made up by the increased *abiàna*. The following new cesses were imposed :—

		Rs. A. P.	
Zaildàr's cess	at	1 0 0	per cent.
Ala lambardàr's cess	,,	1 0 0	,,
Postal cess	,,	0 8 0	,,

The local cess at Rs. 6-4 per cent. was already in force.

Progressive *jamas* : canal revenue.

"After five years the present revenue will increase by Rs. 184, and after 10 years, by Rs. 968, on account of progressive *jamas*. One main reason for this future increase is, that at present the leases of some of the new grants have not expired. The returns show 4,674 acres irrigated by canals. These would pay now about Rs. 2,400 *abiána*. In future they will pay about Rs. 7,000. So the new assessments, as a whole, result in a net increase of actual revenue of nearly Rs. 3,000."

Final result of assessment.

The actual result of the assessment of the four *tahsíls* is given below. As regards the Rávi *tahsíls*, the decrease refers to the rent-roll of S. 1927 (A.D. 1870-71); as regards Pák Pattan, to that of S. 1929 (A.D. 1872-73); and th eincrease, as regards Dipálpur, to that of S. 1930 (A.D. 1873-74) :—

Name of *tahsil*.	Former *jamas*.	New *jamas*.	Initial decrease.	Initial increase.	Progressive income after 5 years.	10 years.	15 years.	*Kamil jamas*.	Final decrease.	Final increase.
Gugera ..	78,027	74,450	3,577	..	773	3,521	..	78,744	..	717
Montgomery ..	84,174	77,955	6,219	..	627	4,050	..	82,632	1,542	..
Pak Pattan ..	52,125	50,353	1,772	..	184	968	..	51,505	620	..
Dipalpur ..	1,09,415	1,16,031	..	6,616	391	3,659	76	1,21,255	..	10,742
Total ..	3,23,741	3,18,789	11,568	6,616	1,975	12,198	76	3,33,038	2,162	11,459

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Final result of assessment.

The result is an initial net decrease of Rs. 4,952, with a final net increase of Rs. 9,297. The new *jama* falls at the rate of annas 14 per acre on the cultivated area as shown in the completed returns. The *jama* of the regular Settlement, as given in the printed report, was Rs. 3,03,520 exclusive of *ábiána*. This fell at the rate of annas 11-9 per acre on the cultivated area of 409,059 acres given in the same statement.

Subsequent revision, and introduction of fluctuating assessment.

During Settlement operations the officers in charge had urged upon Government the advisability of introducing in *sailáb* lands annually flooded by the river, a system of fluctuating assessment similar to that already sanctioned for canal irrigated tracts and described below. The proposal was disallowed ; but further experience led to its acceptance in the neighbouring districts of Multán and Jhang ; the fixed assessments of parts of Gugera and Montgomery *tahsíls* were found to press heavily on the people, and in 1880 Mr. Purser was deputed to introduce fluctuating assessments in a number of villages along the Rávi ; and the rates first imposed being found too high, they were reduced in 1882. The system adopted is fully discussed in the Gazetteer of the Jhang and Multán districts.

Period of Settlement.

The assessments of the Gugera and Montgomery *tahsíls* were sanctioned for a term of 20 years, from *kharíf* 1871-72. Mr. Roe stated that he considered the assessments "decidedly high, as they had been "fixed, not on present cultivation, but on what it was hoped that "cultivation would be." The assessments of the Dipálpur and Pák Pattan *tahsíls* were sanctioned for a term of 20 years, from *kharíf* 1873-74.

Cesses.

The cesses to be realised on the revenue are as follows:—

	Rs.	A.	P.	
1. Local rates	8	5	4	per cent.
2. Road	1	0	0	"
3. Schools	1	0	0	"
4. Post (district)	0	8	0	"
5. *Lambardárs*	5	0	0	"

In addition to these a *patwárí's* cess is levied at 5 per cent. in Dipálpur, and at 5, 4, or 3·0 per cent. in the other *tahsíls*, according as the assessment is low, moderate, or high. The *zaildárs'* allowances are one per cent. on the land revenue of their circles.

Qists or revenue instalments.

The dates on which the *qists* or revenue instalments fall due are 15th June and 15th July for the spring harvest, and 1st December and 1st January for the autumn harvest. The *zamíndárs* themselves decided what share of the revenue they would pay with each. The general result is approximately a payment of annas 10 with the summer *qists*, and annas 6 with the winter *qists*. The proportion varies in different *tahsíls*. In Montgomery it is nearly three in the summer to one in the winter, while in Pák Pattan it is nearly four to three. In the other *tahsíls* the average for the district in preserved. The summer instalments are nearly equal in all the *tahsíls* except Montgomery, where the people have decided to pay two shares with the second instalment and one with the first. The two *kharíf* or winter instalments are everywhere nearly equal.

Assignments of land revenue.

Table No. XXX shows the number of villages, parts of villages and plots, and the area of land of which the revenue is assigned, the amount of that revenue, the period of assignment, and the number of assignees for each *tahsíl* as the figures stood in 1881-82.

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Land and Land Revenue.

Assessment of canal lands.

Early management.

Before assessing the two Sutlej *tahsils*, Dipálpur and Pák Pattan, in respect of the land revenue, it was necessary to decide the rates which were to be paid by the people for canal water, and the principles on which these rates were to be fixed and collected. In the Sikh time the Khánwah and lower Soház supplied certain villages in this district with water. It was not till 1843 that any water-rate was levied. The rate then imposed was one anna per *kanàl* on crops that came to maturity, and applied only to the Khánwah. Under English rule this rate was continued. At first a farm used to be given of this tax, and yielded on an average Rs. 9,000 to Rs. 10,000 annually. The charge was extended to the lower Soház. In 1855, Mr. Vans Agnew, the Settlement Officer, proposed assessing canal irrigated and *sailàba* lands in a new way. He thus describes his method:—

"I have fixed two *jamas* for every village, the one upon all *kurwah* or well-lands, which can be cultivated without the aid of inundation from the rivers or canals, to be *permanent*, and to be considered the fixed demand until the expiry of the period of Settlement; and the other upon all *sailàba* to be *variable*, and under the name of *àbiàna* in canal lands, and of river *sailàba jama* in those subject to the influence of the Sutlej, to fluctuate with the uncertain inundation, and to be annually revised."

The variable rates proposed were, per acre, Re. 1-11 in Dipálpur, Re. 1-8 in Hujra, and annas 12 in Basírpur *chaks*. Along the river they ranged from Re. 1-10 to annas 6 per acre. This scheme was suggested on account of the uncertainty of the river inundations and canal water-supply. As regards the canals, Mr. Vans Agnew wrote:—

"The irrigation they afford is uncertain and constantly varying. Firstly, in the aggregate annual volume of water they carry. Secondly, in the quantity of water they supply to each village. Thirdly, in the time when they yield that supply. Fourthly, in consequence of their being in a transition state, fresh arrangements of the canal officers continually altering the direction of the water-supply."

His proposals were rejected. The Financial Commissioner, in 1856, thus laid down the principle to be adopted:—

"In the river *sailàb* lands a moderate assessment which the proprietors could be able to pay in ordinary years; in the canal villages, a division of the demand between land rent and *àbiàna* in such proportion as to represent with proximate correctness their relative values, the assessment at the same time being fixed at so moderate an amount that no reduction of *àbiàna* should become necessary in ordinary years."

On this principle Lieutenant Elphinstone assessed thus:—"In the "canal villages the demand has been divided between land and water "rent; and the relative value of these has usually been assumed as "bearing to each other the proportion of 2 to 3." The permanent water rent or fixed *àbiàna* amounted to Rs. 25,110. The canals broke down almost immediately, and Rs. 20 per cent. had to be taken from the land tax and added to *àbiàna*. This raised the fixed *àbiàna* to Rs. 37,083. In villages where the water charge was not fixed, lands irrigated from the canals paid the old rate of one anna per *kanàl*.

Plan adopted at present Settlement.

This system did not work satisfactorily. The people had no object in economizing water, and they wasted it. It was found that many villages were paying next to nothing for their water. The canal tracts

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Land and Land Revenue.

Plan adopted at present Settlement.

were not bearing anything like a fair share of the public burdens. And the revenue credited to the canals was far from equalling the expenditure incurred in keeping them up. It was also known that the prosperity of the canal tracts depended entirely on the canals; and that if the canals were abandoned, the country would relapse into jungle. It was therefore only fair that the canal rates should be raised. A good deal of correspondence took place on the subject; and the result was the adoption of the main principle of Mr. Vans Agnew's scheme. Each village was to be assessed at a sum which would represent what it could fairly pay from its natural products, *bàràni* and well cultivation. This was to be fixed land revenue. Besides this fixed *jama*, villages taking canal water were to pay for it separately. The area irrigated was to be ascertained by annual measurements, and the rates of charge were to vary with the crops grown. If the crops did not come to maturity owing to the failure of the canal, no *àbiàna* was to be paid. In case of partial failure of crops, partial remissions might be made. Lands irrigated by lift were to pay half the rates fixed for lands irrigated by flow. The amount payable each year was to be announced to the *lambardàrs* by the canal officer. The proposed arrangement was sanctioned with some modifications. No portion of the fluctuating revenue was to be credited as proposed to the canal departments; but there were to be "three sub-heads "under the general head of land revenue. Under the first of these "sub-heads will be shown the fixed *bàràni* assessment, or the rate "which would be leviable on unirrigated land; under the second the "fixed assessment on lands irrigated by wells; while under the third "sub-head will be shown the fluctuating revenue derived from lands "irrigated by canals. This last will be the amount which the "irrigation department will be entitled to show in their administra-"tion departmental accounts as the financial result of the canals "under their charge." The rates now in force are given below.

Assignments of canal revenue.

Extra cesses on canal revenue.

Jàgirdàrs were to receive the whole revenue of their villages credited under the first two sub-heads, and one half of that shown under the third sub-head, the other half representing approximately what would elsewhere be separately charged as water-rate. As regards cesses, it was decided that the people in this tract should only pay at half the ordinary rates for the—

(1) *Patwari's* cess,
(2) *Lambardàr's* cess,
(3) *Ala Lambardàr's* cess,
(4) *Zaildàr's* cess,

and that Government should contribute out of land revenue an amount equal to that paid by the people. Formerly only the *patwari's* cess was realized on the *àbiàna jama*, fixed or fluctuating. Lately the local cess also was charged on the fixed *àbiàna*. This rule was to apply to *jàgìr* villages also. The other authorized cesses were to be paid on, and over and above the entire Government demand by the occupants of land.

Water-rates.

The rates sanctioned in 1874 were for five years only; revised rates were sanctioned by the Government of India with effect from the *kharìf* crop of 1880, and are still in force; they are as follows:—

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Land and Land Revenue.

Water-rates.

Class.	Crop.	Rate per acre.	Class.	Crop.	Rate per acre.
		Rs. A.			Rs. A.
I	Rice ... ... Gardens ... ... Chillies (red pepper)...	3 0	III.—*contd.*	*Kangni* ... ... *China* ... ... *Sowánk* ... ... *Másh* ... ... *Moth* ... ... Indigo ... ... Turmeric ... ... All other *kharîf* crops not otherwise mentioned ...	1 2
II	Cotton ... ... Melons ... ... Sugarcane ... ... *Til* ... ... Hemp	2 0	IV	All *rabi* crops ... Plantations ... Vegetables ...	0 14
III	Indian corn (*makkai*) *Bájra* ... ... *Múnj* ... ... *Jowár* ... ... *Charri*	1 2	V	Fallow land ... Lands ploughed but not sown ... Grasses ...	0 10

NOTE.—The above rates are for *flow* irrigation. Irrigation by *lift* is charged at half the above rates.

As a rule, the *rabi* crops can get only one watering, which is not sufficient to bring them to maturity, and recourse is had to well irrigation ; on this account the rate has been fixed low. On the same principle the light rate on sugarcane is explained.

Income, expenditure and area irrigated.

The following table gives the income, expenditure and net area irrigated from the various canals during the five years ending 1882-83 :

Year.	Name of canal.	Net income.	Expenditure.	Net area irrigated	Remarks.
		Rs.	Rs.	Acres.	
1878-79	Katora ...	233	...	246	*Note.*—The gross areas irrigated were largely in excess of the figures here shown, which merely represent the *net* acreage after deduction of all remissions.
	Khánwah ...	87,471	21,204	56,506	
	Upper Sohág ...	46,640	17,863	30,716	
	Lower Sohág ...	894	4,282	1,176	
	Total ...	1,35,238	43,349	88,644	
1879-80	Katora ...	66	...	52	*Note.*—The Katora Canal lies in the Lahore district, but a little irrigation is done from it in the Montgomery district.
	Khánwah ...	53,879	23,640	37,011	
	Upper Sohág ...	39,257	17,172	27,863	
	Lower Sohág ...	2,024	2,568	2,461	
	Total ...	95,226	43,380	67,387	
1880-81	Katora ...	45	...	40	
	Khánwah ...	53,984	26,015	34,415	
	Upper Sohág ...	36,046	16,367	31,719	
	Lower Sohág ...	2,369	90	3,110	
	Total ...	92,444	42,472	69,284	

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Land and Land Revenue.

Income, expenditure, and area irrigated.

Year.	Name of canal.	Net income.	Expenditure.	Net area irrigated.	Remarks.
		Rs.	Rs.	Acres.	
1881-82	Katora ...	75	...	62	
	Khánwah ...	76,713	24,695	56,785	
	Upper Soház ...	81,406	11,446	73,395	
	Lower Soház ...	5,863	131	6,886	
	Total ...	1,64,057	36,272	1,37,128	
1882-83	Katora ...	20	...	11	
	Khánwah ...	41,660	57,106	38,106	
	Upper Soház ...	59,758	16,886	53,244	
	Lower Soház ...	3,951	2,238	4,310	
	Total ...	1,05,389	76,230	95,671	

Canal management. The Khánwah and upper Soház.

On the Khánwah and upper Soház there is but little irrigation by means of the Persian-wheel. If a village wants canal water it has to apply for leave to make an opening into the canal. Th s opening is called a *muhana.* In fixing the position of the opening the people are guided by the fact that the country slopes down from north to south and from east to west. Water-courses are always called *chhárs,* but really there are two kinds, the *chhár* and the *takki.* The size of the opening of the *takki* is half that of the *chhár.* The brick opening of a *chhár* is 2 feet broad by 4 feet high; that of a *takki* was 1 foot broad by 4 feet high. Thus a *takki* got about half as much water as a *chhár.* But it was found that it was not possible to clean out an opening only 1 foot broad and perhaps 15 feet long; so the opening was made 2 feet square. This ingenious arrangement gave a *takki* almost as much water as a *chhár.* When applying for an opening the estimated cost of making the brick head has to be deposited with the canal officer, who makes the head and refunds any balance there may be. The land required for the water-course from the canal to the irrigating village is obtained by agreement or under the Act. It has hitherto been the custom for it to remain the property of the original owners, who take the trees and spontaneous products on the banks of the water-course, and have a right of re-entry on the *chhár* being abandoned, while the irrigators have a right of occupation in the land transferable with the land irrigated from the water-course. When a *chhár* is owned by more than one village, the water is divided according to the expenditure incurred by each. Each village is entitled to a certain number of turns or *varís* lasting 24 hours each. The village nearest the canal gets the first turn, the next village the second, and so on; but if the supply is short, the length of the *vari* may be reduced; and a village losing its turn is entitled to get the first turn when the canal runs again. The expenditure of each village was usually distributed equally over the wells, and then the wells shared equally in the irrigation; or it was distributed according to the shares held in the village, and each man received his share of the irrigation according to his payments. The well nearest the canal had the first turn. Turns lasted from 6 to 24 hours; but might be less, if there was a short supply. The shares in the irrigation belonging to each well were distributed according to the shares held in the well. A proprietor who did not join in constructing the water-course could not

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Land and Land Revenue.

Silt clearances.

claim to come in afterwards on payment of his share. As regards clearances, the canal department cleans out the canals and the main distributing channels (*ràjwàhs*) and the brick openings. The people have to effect the clearances of their *chhàrs*. As a great deal of silt is brought down, the *chhàrs* have usually to be cleared out two or three times in the year. The owners are responsible for the first clearance; but the tenants have to join in the others, on getting two meals a day. Only the first mile of the *chhàr* requires much clearing out. *Chhàrs* are commonly cleaned by *ors* or *ods*, who here seem to be professional navvies. The usual payment is Rs. 3 per hundred cubic *haths*, the *hath* being rather over 3 feet. This comes to about 1 rupee per thousand cubic feet. And the cost of clearance may be put at 12 annas to Re. 1 per acre irrigated. The canal officer distributes the water among the *chhàrs* as he sees fit. Generally all the *chhàrs* are open at the same time; but on the Khánwah there are regulators at the Hujra, Dipálpur, and Kacha-Pakka bridges, and water is dammed up at one or other of these occasionally. Tenants have hitherto in most cases paid the *àbiàna* or water-tax charged by Government. They also give one-third of the crops grown on canal-irrigated land by way of rent to the owner of the land, and one-fourth on well-irrigated lands. But as far as Hujra, from the Lahore border, the tenants generally helped in digging the *chhàrs*, and always share in keeping them clear from silt; and in return they give only ¼ of the produce of canal crops, as well as of well-crops to the proprietors.

Distribution of water.

Charges defrayed by tenants.

Government lands forests, &c.

Table No. XVII shows the area and income of Government estates, while Table No. XIX shows the area of land acquired by Government for public purposes. The forests have already been noticed at pages 121-126. As more than two and a quarter million acres belong to Government, the question of their management is one of considerable importance.

Grants of waste land.

The grants of waste land for the purpose of cultivation and the permission annually granted to cultivate the fallow so common in the *bàr*, have already been described in Chapter I (page 15), while the evil effect which these grants had upon the prosperity of the older villages has just been discussed (page 160). These grants and the grazing tax or *tirni* form the principal sources of income from Government estates.

Status of lessees of Government waste lands.

The question of how lessees of Government waste lands should be recorded, who had been allowed to sink wells, found villages, and, in fact, exercise all the rights of proprietorship, had to be decided at the Settlement of 1874. The question was one of some magnitude, as it concerned 1,025 estates, with an area of 125,008 acres, paying a revenue of Rs. 32,488. It was ultimately decided that the lessees should, in all cases, except as regards grants made under Financial Commissioner's Circulars 7 and 12 of 1868, be recorded proprietors. In cases of grants made under these circulars, if *màlikàna* had been fixed, the lessees were to be recorded as tenants; while if no *màlikàna* had been fixed, a separate inquiry was to be made into each case. By this order, the holders of 84 grants with an area of 8,801 acres were recorded as tenants; separate inquiry was directed in respect of 48 grants, with an area of 4,065 acres; in other cases proprietary rights were upheld.

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Land and Land Revenue.
Tirni.

Intimately connected with the land revenue is the *tirni* or grazing tax. This tax is an inheritance from the Sikhs, and the object of it appears to have been to make professional cattle-breeders, who did not otherwise contribute to the expenses of the state, share in the burdens of the rest of the population. Agricultural cattle were exempt from taxation, and so were cows and buffaloes, the property of *bonâ fide* cultivators. Sheep and goats were, however, always taxed. Up to last Settlement, only camels, buffaloes, sheep and goats paid *tirni* in this district. Lieutenant Elphinstone recommended that cows should be taxed. They were taxed. The main excellence of the Sikh system, that the cattle of cultivators were exempted from taxation, was lost sight of. In process of time even agricultural bullocks came to be taxed. In 1857-58, the *tirni* income amounted to a little under Rs. 32,000. In 1872-73, the income was Rs. 1,08,009, of which sum about one *làkh* is due to *tirni* proper, and the rest to leases of *kokanber*, grass, *múnj* and *sajji*, which were formerly shown separately. In 1881-82 it amounted to Rs. 1,48,000. The system in force up to 1870-71 involved periodical counting of the cattle of all the villages of the district. But only those villages whose cattle actually grazed in the Government jungle paid *tirni*. If, however, any cattle of non-*tirni*-paying villages were found in the jungle, all the cattle had to pay double rates. In 1870-71 the Government waste lands were divided into blocks or *tirni mahals* which were leased annually, and farmers were left to make their own arrangements with people grazing cattle in their blocks. The farmers were allowed to charge at certain fixed rates for each head of cattle grazing, *viz.* :—

	Rs.	A.	P.		Rs.	A.	P.
Male camel ...	1	0	0	Female buffalo ...	1	0	0
Female camel ...	1	8	0	Cow ...	0	8	0
Male buffalo ...	0	8	0	Sheep or goat ...	0	1	0

Plough bullocks no longer paying *tirni*. These rates were by no means excessive, considering the great profits yielded by cattle. But it was found that this system led to so much oppression and extortion, and the contractors became so obnoxious to the people, that their lives were hardly safe when they ventured among the grazing community to enumerate the cattle. Consequently in 1879 the system of employing contractors was discontinued, and fees were collected by Government officials on the enumeration of cattle effected for each village or locality; the rates remaining unchanged. In 1882 it was found that the *tirni zaildàrs* gave little or no assistance, and all were dismissed, save a very few of the best men. In that year the Afghán war drew about 7,000 camels from the district; the enumeration was purposely not made too strictly; and the numbers thus arrived at were under orders of Government; and in order to avoid annoyance caused by annual enumeration, accepted for a period of five years. This of course only applied to the inhabitants of the district, and not to nomad tribes or to people from neighbouring districts, whose only object in coming is probably to evade paying *tirni* dues in their own villages. Some of the large stock-owners are very independent, and almost always evade enumeration of their animals by distributing them among dependants, or by driving them across the boundary of the district.

CHAPTER VI.

TOWNS AND MUNICIPALITIES.

Chapter VI.

Towns and Municipalities.

General statistics of towns.

At the Census of 1881, all places possessing more than 5,000 inhabitants, all municipalities, and all head-quarters of districts and military posts were classed as towns. Under this rule the following places were returned as the towns of the district:—

Tahsil.	Town.	Persons.	Males.	Females.
Montgomery	Kamália	7,594	4,282	3,312
Ditto	Montgomery	3,178	2,131	1,047
Gugerá...	Saiyadwála	3,389	1,752	1,637
Dipálpur	Dipálpur	3,435	1,849	1,586
Pák Pattan	Pák Pattan	5,993	3,160	2,833

The distribution by religion of the population of these towns and the number of houses in each are shown in Table No. XLIII, while further particulars will be found in the Census Report in Table No. XIX and its appendix, and Table No. XX. The remainder of this chapter consists of a detailed description of each town, with a brief notice of its history, the increase and decrease of its population, its commerce, manufactures, municipal government, institutions, and public buildings; and statistics of births and deaths, trade and manufactures, wherever figures are available.

Kamália town.

The town of Kamália, generally known as Kot Kamália, lies 5 miles north-west of the Rávi on an isolated mound upon the bank which marks the northern limits of the river's excursions, and contains a population of 7,594 souls. It is situated in a flat country, which for some distance round is well populated, and a few fruit and flower gardens surround the town. The town is traversed by a single *bázár* from east to west. The streets are, as a rule, well paved, and though many of them are narrow and crooked, the drainage, and indeed the sanitary arrangements generally, are excellent. The water-supply is obtained from wells dug within and without the town. The principal building of antiquarian interest is a *masjid*

Chapter VI.

Towns and Municipalities.

Kamália town.

within the town, built at the time of the Kharral chief Khán Kamál.

Kamália is a very ancient town. General Cunningham * identifies it as one of the towns of the Malli taken by Alexander in his invasion of India. An account of the campaign against the Malli has been given elsewhere.† The modern town was founded in the fourteenth century by a Kharral chief named Khán Kamál, from whom it derives its name, and whose descendants still occupy it. The site, however, has been undoubtedly occupied from a much earlier period, as is testified by an ancient mound of burnt brick ruins, adjoining the modern town; and its situation so exactly fits in with the narrative of Arrian, that its identification with the town of the Mallí may probably be accepted as correct. General Cunningham mentions a tradition to the effect that the old town was overthrown by a king from the west, at the same time as Shorkot. He also suggests a connection between the name Kamália and that of the Malli. After the annexation of the province, the town made a great start into prosperity, a brisk trade in the produce of the lowlands of the Rávi springing up. It was much thrown back by the systematic plunder effected by the insurgent tribes in 1857, who held it for a whole week and sacked it most completely. The inhabitants had time to secrete much of their property before the attack was made, but their loss, nevertheless, must have been very serious. Upon the restoration of order, ample compensation was made to them, and the town has now quite recovered its former prosperity. The opening of the Sindh, Punjab and Delhi Railway has added immensely to the commercial importance of the town. The road which passes from Chícháwatni to Jhang and onwards to Dera Ismáil Khán, is the main road of traffic with Jhang and Dera Ismáil Khán.

The municipality of Kamália was first constituted on 29th July 1868. It is now a munipciality of the third class. The committee consists of seven members, the only official member being the Hospital Assistant. These are all appointed by the Deputy Commissioner. Table No. XLV shows the income of the municipality for the last five years. It is chiefly derived from octroi levied at different rates on the value of goods brought within municipal limits. Indigo and hides are exempt from municipal duty, and wheat, so far as it is produced within municipal limits, is also excluded from taxation. Kamália is a place of great commerce, collecting wheat, grain and pulses, from surrounding villages and Jhang, *gúr* and sugar from Jallandhar and Amritsar, wool from Jhang, cloth-pieces from Calcutta, Karachi, Amritsar and Multán, *majíth* and fruits from Afghánistán. The articles exported from this town are *lungis*, quilts, cloth and *dharis*, &c. The area round the town is irrigated by *chárs*, known as Gark and Garkná, constructed at the time of Gholam Mohammad Khán, a descendant of a Kharral chief, Kamál Khán. The figures given on the top of the next pages how the total imports within municipal limits for the last five years, but the figures are of very doubtful accuracy. Further information will be found in the Trade Reports.

* Ancient geography of India, 208-210.
† See Gazetteer of the Multán district.

Imports into Kamália.

Names of articles.	1877-78.		1878-79.		1879-80.	
	Approximate quantity in maunds.	Approximate value.	Approximate quantity in maunds.	Approximate value.	Approximate quantity in maunds.	Approximate value.
		Rs.		Rs.		Rs.
Grain	35,916	58,299	45,627	91,254	26,428	52,856
Sugar	300	3,600	3,990	24,079	802	9,629
Ghi	276	5,520	413	8,262	270	5,799
Other articles of food and drink	40,437	9,962	70,456	1,42,809	50,210	1,15,708
Oil, soap, &c.	2,305	6,915	18,559	3,895	25,052	6,535
Building materials ...	20,368	1,156	42,756	3,677	35,098	2,932
Country medicines, &c.	37	457	231	3,203	664	7,740
Tobacco	128	640	186	937	127	634
Cloths, &c.	1,033	46,495	643	43,144	702	59,440
Metals	137	3,110	22	818	24	977

Names of articles.	1880-81.		1881-82.	
	Approximate quantity in maunds.	Approximate value.	Approximate quantity in maunds.	Approximate value.
		Rs.		Rs.
Grain	45,821	91,622	33,928	67,856
Sugar	1,134	13,614	617	7,404
Ghi	435	7,610	402	8,040
Other articles of food and drink ...	72,011	1,65,157	57,017	1,77,478
Oil, soap, &c.	13,403	3,507	20,076	3,649
Building materials	69,792	5,558	124,425	8,291
Country medicines, &c.	1,839	7,358	744	7,466
Tobacco	255	1,277	512	2,553
Cloths, &c.	1,201	65,068	887	65,229
Metals	50	2,015	49	1,970

The principal institution is the town school; the other buildings of importance are five *dharmsàlas*; also a *samàdh* (shrine) of Bhai Prem Dás, a *shivàlà* of Báwa Gobindgir, and a *thàkar dawàrà* of Báwa Mangal Dás, with a good well and some trees around it; *thànà*, post office, dispensary, municipal committee house, and a *sarài*. This town was formerly the head-quarters of a *tahsìl*, but in 1855 the head-quarters were removed to Harappa and subsequently to Montgomery. The population, as ascertained at the enumerations of 1868, 1875 and 1881, is shown in the margin.

Limits of enumeration.	Year of Census.	Persons.	Males.	Females.
Whole town ...	1868	5,695	3,109	2,586
	1881	7,594	4,282	3,312
Municipal limits	1868	5,695		
	1875	5,900		
	1881	7,594		

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Kamália town.

It is difficult to ascertain the precise limits within which the enumerations of 1868 and 1875 were taken; but the details in the margin, which give the population of suburbs, throw some light on the matter. The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. The Deputy Commissioner in the district report on the Census of 1881 thus explains the increase of population:—"Owing "to a change in the course of the Rávi (which formerly ran some 12 "miles from the town) and to new land deposited in the neighbourhood, "the lands of Kamália have of late been abundantly inundated, and "the new deposits and the additional fertility have attracted a large "influx of cultivators." The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881.

Town or suburb.	Population.	
	1868.	1881.
Kamália town ...	4,842	6,692
Thatha Fatehpur...	390	528
Do. Dulman Toya...	463	374

Montgomery town.

Montgomery is a small place of 3,178 inhabitants, and lies on the Sindh, Punjab and Delhi Railway, midway between Lahore and Multán. The town was founded in 1865 by Mr. Blyth, then Deputy Commissioner of Gugerá district; the head-quarters of the district being transferred to it from Gugerá in order to be on the line of rail. The spot where it stands was then occupied by the small village of Sáhiwál, and is about 27 miles south of Gugerá. It received its present name out of compliment to Sir Robert Montgomery, then Lieutenant-Governor of the Punjab. The town lies in the midst of a sterile plain unbroken by vegetation and covered with saline efflorescence, and the surrounding scenery, desolate beyond description, harmonises well with the rows of empty shops and houses which an intelligent people has declined to inhabit. The town itself is a collection of *kacha* native houses without a wall; and the four sides of the town are open towards the jungle or *bár*. It has two *bázárs* (Blyth-Ganj and Ford-Ganj); the streets are wide, but not paved. The chief buildings in this town are district court, police office, sessions-house, police-lines, *thána* and *tahsíl* (combined), munsiff's court, dispensary, jail, church, staging-bungalow, poor-house and post office. There is also an encamping-ground with a *sarái* and a good well. There are a few other *pakka* houses in the station for European residents. The municipal committee consists of eight members appointed by the Deputy Commissioner. Its income for the last five years is shown in Table No. XLV, and is derived from octroi levied on the value of all goods imported for consumption within municipal limits. The town has little or no trade, and is in fact nothing but the head-quarters of the district staff. The population, as ascertained at the emunerations of 1868, 1875 and 1881, is shown on the opposite page.

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Montgomery town,

Limits of enumeration.	Year of census.	Persons.	Males.	Females.
Whole town.	1868 1881	2,413 3,178	1,879 2,131	534 1,047
Municipal limits ...	1868 1875 1881	2,416 2,588 3,178		

It is difficult to ascertain the precise limits within which the enumerations of 1868 and 1875 were taken; but the details in the margin, which give the population of suburbs, throw some light on the matter. The figures for the population within municipal limits, according to the Census of 1868, are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881.

Town or suburb.	*Population.*	
	1868.	1881
Montgomery town	1,297	1,926
" Civil lines	1,116	1,252

Saiyadwálá town,

Saiyadwálá is a small place of 3,389 inhabitants, situated on the right bank of the Rávi. Its importance is purely local; there is one road passing between Saiyadwálá and Chiniot. It was formerly the head-quarters of a *tahsìl*, which was subsequently abolished and the villages annexed to the Gugerá *tahsìl*. This place is a collection of *pakka* and *kacha* native houses, surrounded by a wall with four gates. It has a single *bàzàr* with a well paved street, also a *thànà*, school-house, and municipal committee house. The municipal committee consists of seven members appointed by the Deputy Commissioner. Its income for the last five years is shown in Table No. XLV. and is derived from octroi levied on goods imported within municipal limits. The population, as ascertained at the enumerations of 1868, 1875 and 1881, is shown in the margin.

Limits of enumeration.	Year of census.	Persons.	Males.	Females.
Whole town	1868 1881	2,854 3,389	1,518 1,752	1,336 1,637
Municipal limits ...	1868 1875 1881	2,854 3,437 3,389		

It is difficult to ascertain the precise limits within which the enumerations of 1868 and 1875 were taken; but the details in the margin, which give the population of suburbs, throw some light on the matter. The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many

Town or suburb.	Population.	
	1868.	1881
Saiyadwala	2,854	3,011
Thatha Rupchand ..	..	378

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cases doubtful. The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881.

Dipálpur town. Description.

Dipálpur is a small place of 3,435 inhabitants, situated about 17 miles from the Okárah railway station, and 20 miles north of the river Sutlej. In 1870 the *tahsíl* head-quarters were transferred from Hujra to Dipálpur, where there was no *tahsíl*. The place is frequented by traders from Dera Ismáil Khán and other places towards the frontier, on account of the main road from Okárah to Fázilka passing through that place. The town itself is an unpretentious collection of *kacha* and *pakka* native houses surrounded by an old wall with three gates, one *Thattiyári* towards the east, *Multáni* towards the west, and the third, being newly opened, is called *Shumáli Darwáza*, towards the north. The important buildings in the town are the temple of Lalu-jas-ráj, where an annual fair is held in the month of Mágh ; an old *masjid*, built at the time of Khán Khánán, Wazír of Sháh Jáhán, Emperor of Delhi ; and a tomb of Imám Sháh, where also an annual fair is held. It has two *bázárs* well paved, the main street of one passing from east to west, and of the other from the middle of the first *bázár* towards the north. There is no grain market in the town. The other buildings are a *tahsíl* and *thána*, police *chauki*, municipal committee house, post office, school-house, *lambarkhána*, dispensary, and *sarái*. There is also an encamping-ground with a good well on it. The land around the town is irrigated by the Khánwah canal. The municipal Committee consists of six members appointed by the Deputy Commissioner. Its income for the last five years is shown in Table No. XLV, and is derived from octroi levied on the value of almost all goods imported within municipal limits. Thirteen years ago the place was a small agricultural village, but the transfer of the head-quarters of the *tahsíl* here from Hujra, has greatly increased the importance of the place, besides adding much to the public convenience.

History.

Dipálpur is a very old city indeed. It is said to have been founded by one Srí Chand, after whom it was called Srínagar. Srí Chand had no children. His priest, Chandar Mani, stood on one leg for 5 months and 27 days ; after which the goddess Devi gave him her two sons, Bhím and Lalújas Ráj. He brought them to Dipálpur, and two of Srí Chand's wives adopted them. One day on the way to the temple they indulged in a game of tip-cat. The cat struck one of Srí Chand's wives, who expressed in vigorous language her opinion that they ought to be swallowed up by the earth. Almost immediately Bhím disappeared in the ground, and Lalújas Ráj went after him. Chandar Maní had just time to catch him by the lock of hair at the back of his head (*choti*) before he vanished. He then directed that every Khatri of the Khanná sub-division should offer up his *choti* in that place before marriage, and so should other tribes when making vows. He then disappeared. This legend, and the old name of the town, may have some bearing on the question of who were the Oxudrakae (Ancient Geography of India, page 214). But it is incredible that the Káthias should ever be allies of the Khatris.

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The present name of the town is said to be derived from Dípa, one of Rája Sálváhan's sons, who re-founded the town. Risálu, another son, lived at Dhaular. The love adventures of his queen Kokilán and Rája Hodi are still sung by Mirásís. There are, however, several other stories concerning the name Dipálpur. According to General Cunningham,* "the foundation of the place is attributed to Rája Deva Pála, whose date is unknown." Another tradition, however, given by the Deputy Commissioner of the district, is to the effect that the town was founded by one Bíja Chand, a Khatri; that it was originally called Srípur, after the son of the founder, Srí Chand, and that subsequently a Rája, by name Har Singh, surrounded it with a wall and changed its name to Dipálpur. This tradition also mentions no date. The antiquity of the town, however, is clearly established. General Cunningham remarks that "the interior surface on which the "houses are now built is on a level with the terreplein of the ramparts. "The old coins, also, which are found there in great numbers, show that "Dipálpur was in existence as early as the time of the Indo-Scythians." Being thus persuaded of the ancient origin of the town, General Cunningham is "inclined to identify it with the Daidala of Ptolemy, which was on the Sutlej, to the south of Labokla and Amakatis, or Lahore and Ambakápi.† In the 14th century the emperor Fíroz Tughlak frequently visited the town, his hunting excursions extending in this direction from the neighbourhood of Sirsa and Hissár.‡ He is said to have erected a large mosque outside the city, and drawn a canal from the Sutlej for the irrigation of its lands. It is repeatedly mentioned by the early Mahomedan historians, and must have retained some of its importance in the time of the emperor Bábar, who says, speaking of the garden he laid out at Kábul, "in the year in which I defeated Bihár Khán and conquered the countries of Lahore and Dipálpur."

At the time of Taimur's invasion the town was second only to Multán in size and importance, and was popularly said to possess 84 towers, 84 mosques, and 84 wells. At present it is nearly deserted, there being only one inhabited street running between the two gates. In shape, it is a square of nearly 1,600 feet, with a projection 500 feet square at the south-east quarter. To the south-west there is a high ruined mound, connected with the town by a bridge of three arches which is still standing; and from its high and commanding position, General Cunningham is inclined to believe that popular tradition is right in affirming this mound to be the remains of a citadel. To the south and east there are also long mounds of ruins, which are doubtless the remains of suburbs. The existing ruins, including the citadel and suburbs, occupy a space $\frac{3}{4}$ mile in length by $\frac{1}{2}$ mile in breadth, or $2\frac{1}{2}$ miles in circuit. But in its flourishing days the town must have been much larger, as the fields to the east are strewn with brick right up to the banks of the Khánwáh canal, near which was situated the mosque built by Fíroz Sháh, Tughlak. This extension of the town beyond the walls may also be inferred from the fact that

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* Ancient Geog. I., p. 213-14.

† Ancient Geography, i. p. 214. As to Ambakápi, see Gazetteer of Gujránwála district. In an earlier publication (Arch. Rep. i., p. 140) General Cunningham suggests the identity of Daidala with Delhi.

‡ See Gazetteer of the Hissár district.

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the people of Dipálpur, on Taimur's invasion, sought refuge in Bhatner, which they would not have done had their own city been defensible.* The complete decay of the town in modern times is probably to be attributed to the drying up of the old Biás. It is said that many of the inhabitants migrated, after the failure of the river, to Haidarábád in the Dakkhan, and large numbers of Khatrís in Sindh and Kach assert Dipálpur to be their original home. Improvements made in the Khánwáh canal after annexation have to a certain extent revived the prosperity of the town as a local trade centre.

The most noticeable feature in the modern towns is the shrine of Bába Lálújas Ráj, a saint much venerated by Khatrís of the three highest classes—Khanna, Kapúr and Marotra. The male children of these classes throughout the greater part of the province are taken to this shrine in or about their tenth year, for the purpose of dedication to the saint. The ceremony consists in shaving the child's head, after which the lock upon the top of the head (*choti*) is considered sacred, and may never afterwards be shaved or cut. Other classes besides those mentioned resort to the shrine for the same purpose, but only in fulfillment, generally, of a special vow, the saint being by no means universally venerated. The sacred days upon which the ceremony can be performed are the Sundays in the month of Mágh. The attendance in the course of the month averages about 11,000. The town is the chief seat of the Khatrís. It has a very bad reputation as regards the honorableness of its inhabitants. The following verse expresses this :—

Shor Shoran, te kúr Láhoron, jhagra Chinioton ;
Peo putr te chughli kare, Dipálpur de koton.

Which implies that Shorkot is the place for uproars, Lahore for falsehood, and Chiniot for quarrelling, and the town of Dipálpur is the place where the father tells tales on his son. All the houses in Dipálpur are built of brick. The streets are narrow, the old walls are tumbling in; the bastions were pulled down on annexation. Altogether the place has a desolate look. It is decidedly unhealthy, and goitre (*gillhar*) is said to be a common complaint. But the prevalence of this disease has been greatly exaggerated.

Population and vital statistics.

The population, as ascertained at the enumerations of 1868, 1875, and 1881, is shown in the margin. There has of late years been some emigration from Dipálpur to Basírpur and the neighbouring villages. The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881.

Limits of enumeration.	Year of census.	Persons.	Males.	Females.
Whole town	1868	3,628	2,044	1,584
	1881	3,435	1,849	1,586
Municipal limits	1868	3,628		
	1875	3,407		
	1881	3,435		

Pák Pattan town.
Description.

The town of Pák Pattan lies in north latitude 30°21′, and east longitude 73°25′, and contains a population of 5,993 souls. The town itself is situated on an eminence of about 40 feet in height at a distance of 4 miles from the right bank of the river Sutlej. The country round

*General Cunningham, Anc. Geog. I., p. 213.

Pák Pattan town. Description.

is well wooded. There is no wall round the town but extensive suburbs stretch from its foot for some half a mile distance. Towards the east about half a mile from the town the *tahsíl* and *thàná* offices are situated. The town is traversed by six main streets running from north to south and from east to west. These are all well paved, and though many of them are narrow and crooked, the drainage, and indeed, the sanitary arrangements generally, are excellent. The water is obtained from wells dug within and outside the town. The principal building of antiquarian interest is the shrine of Bábá Shekh Faríd-ud-dín Sáhib Shakar Ganj, with a few cloisters around it (see below). The principal institution is the town school. The other buildings are *tahsíl*, *thàná*, *sadr* distillery, post office, *patwàri* post, *saràí*, and traveller's house.

The municipality of Pák Pattan was first constituted in July 1868. It is now a municipality of the third class; the committee consists of six members, the only official member being the Hospital Assistant; these are all appointed by the Deputy Commissioner. Table No. XLV shows the income of the municipality for the last five years. It is chiefly derived from octroi levied at different rates on the value of goods brought within municipal limits. Indigo and hides are exempt from municipal duty, and wheat, so far as it is produced within municipal limits, is excluded from taxation. There is also an annual tax (license tax) of Rs. 20, 25 and 50 levied from the traders according to their circumstances. Pák Pattan is a place of great commerce, collecting wheat, pulses from surrounding villages, *gùr* and sugar from Hoshiárpur and Jallandar, cloth-pieces from Calcutta and Bombay, *majìth* and fruits from Afghánistán. The exports from the town are *lungis* and lacquer-work.

The figures below show total imports within municipal limits for the last five years, but the figures are of very doubtful accuracy. Further information will be found in Trade Reports. The manufactures are unimportant, consisting chiefly of lacquered wood-work and coarse checquered silk (see Mr. Kipling's note at pages 140-142).

Imports of Pàk Pattan.

Name of articles.	1877-78.		1878-79.		1879-80.	
	Approximate quantity in maunds.	Approximate value.	Approximate quantity in maunds.	Approximate value.	Approximate quantity in maunds.	Approximate value.
		Rs.		Rs.		Rs.
Grain	30,725	60,020	22,659	53,713	28,486	71,811
Sugar	291	3,785	4,573	31,447	6,876	42,925
Ghi	251	5,021	243	4,757	261	4,530
Other articles of food and drink ...	32,920	76,859	32,268	1,02,190	42,984	1,32,427
Oil, soap, &c. ...	6,375	1,690	17,149	4,988	13,439	5,769
Building materials...	2,019	301	830	1,189	156	707
Country medicines...	95	970	687	7,292	492	4,336
Tobacco	168	843	113	552	68	343
Cloths, &c. ...	1,490	68,079	1,566	53,369	1,183	62,483
Metals	233	3,569	775	10,697	423	9,000

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Pák Pattan town. Description.

Imports of Pàk Pattan.

Name of articles.	1880-81.		1881-82.	
	Approximate quantity in maunds.	Approximate value.	Approximate quantity in maunds.	Approximate value.
		Rs.		Rs.
Grain	58,251	1,42,429	27,328	60,545
Sugar	3,834	20,286	3,241	38,897
Ghi	4,939	90,252	218	4,360
Other articles of food and drink ...	54,099	10,847	35,578	1,10,750
Oil, soap, &c.	4,412	1,398	11,369	3,315
Building materials	1,786	9,167	245	845
Country medicines	600	3,433	600	5,342
Tobacco	802	4,000	122	609
Cloths, &c.,...	75,204	1,00,204	732	51,295
Metals	1,015	20,299	334	4,993

History.

Pák Pattan, anciently Ajudhan, is recognized by General Cunningham as one of the towns of the people variously mentioned by Alexander's historians and other classical writers as Ohydrakæ, Sydrakæ, Sudrakæ, Surakousæ, and Hydarkæ,* whose country extended up the Sutlej, to the north of that of the Malli, a people in conjunction with whom they are always mentioned :—

"The place has always been one of some importance. It was for centuries the principal ferry of the Sutlej. Here met the two great western roads from Dera Gházi Khán and Dera Ismáil Khán—the first *viâ* Mankhera, Shorkot and Harappa, the second *viâ* Multán. At this point the great conquerors Mahmúd and Taimur, and the great traveller Ibn Batuta, crossed the Sutlej. The fort is said to have been captured by Sabuktagín in A.H. 367, or A.D. 977-78, during his plundering expedition in the Panjáb ; and again by Ibrahím Ghaznavi, in A.H. 472, or A.D 1079-80. On the invasion of Taimur, the mass of the people fled to Bhatner, and the few people that remained were spared by that ruthless barbarian out of respect for the famous saint, Faríd-ud-dín Shakar Ganj whose shrine is at Ajudhan."

It is to this Faríd-ud-dín, familiarly and better known as Bába Faríd, that the name of Pák Pattan, or "ferry of the pure one," is ascribed. See foot note to page 27, Chapter II. He is one of the most famous saints of northern India, and to him is attributed the conversion of the whole southern Panjáb to Muhammadanism. It is said that in his progress through the Panjáb the saint was opposed at Ajudhan by a Hindu Jogi, Bírnáth, whom, however, he conquered and subsequently converted under the Muhammadan title of Pír Kamál. The town thenceforth became his principal residence. "By continual fasting, his body is said to have become so pure that whatever he put into his mouth to allay the cravings of hunger, even earth and stones, was immediately changed into sugar, whence his name of Shakar-Ganj, or sugar-store.† This miraculous power is recorded in a well-known Persian couplet :—

* See Gazetteer of the Multán district.

† Another version of the story is that the saint, when hungry, used to tie a wooden cake (*chapatti*) or a bunch of wooden dates to his stomach, and that this composed his sole nourishment for thirty years. The truth of the story is vouched for by the preservation of the identical cake and dates to this very day. They are kept at his shrine at Pák Pattan, and are objects of reverence and worship to the faithful.

"*Sang dar dast o guhar gardad,*
"*Zahar dar kám o shakar gardad:*"

which may be freely rendered:—

"Stones in his hands are changed to money (jewels),
And poison in his mouth to honey (sugar)."

From another memorial couplet, we learn that he died in A.H. 664, or A.D. 1265-66, when he was ninety-five lunar years of age. But as the old name of Ajudhan is the only one noted by Ibn Batuta in 1334, and by Taimur's historian in A.D. 1397, it seems probable that the present name of Pák Pattan is of comparatively recent date. It is perhaps not older than the reign of Akbar, when the saint's descendant, Mír-ud-dín, revived the former reputation of the family by the success of his prayers for an heir to the throne.* The sanctity of the town and of its shrine is acknowledged far beyond the boundaries of the Panjáb, even in Afghánistán and Central Asia, and pilgrims are constantly flocking to it. The principal festival is at Muharram, when crowds that have been estimated at between fifty and sixty thousand, are collected at the shrine. The festival lasts from the first to the fifth day of the Muharram. On the afternoon and night of the last and great day, takes place the characteristic ceremony of the festival. There is a narrow opening in a wall adjoining the shrine, 5 feet by 2½ in size, called "the gate of paradise;" and whosoever during the prescribed hours can force his way through this passage is assured hereafter a free entrance into paradise. At the given signal the rush of anxious devotees begins, and a seething croud presses upon the narrow doorway. Such is the crush that "two or three layers of men packed closely over each other" may be seen attempting the passage at the same time; so that the free entry into paradise is not unfrequently bought at the cost of bruises, and sometimes broken limbs. The lineal descendants of the saint are still represented at the shrine, and enjoy a reputation for the utmost sanctity. The present head of the family is twenty-fourth in descent from Bába Faríd. He enjoys a handsome revenue grant *jágír* from the British Government, in addition to the revenues of the shrine itself, which are considerable. A list of the lineal representation of Bába Faríd is given below. Bába Faríd himself arrived at Pák Pattan in H. 584 and died in H. 664. His successors were—

Name.	date of succession.	Name.	Date of succession.
1. Badr-ud-dín	H. 664	13. Táj-ud-dín	H. 982
2. Ala-ud-dín	668	14. Faizulla	1008
3. Muáf-ud-dín	722	15. Ibrahím	1010
4. Fazl-ud-dín	738	16. Muhammad Dín ...	1019
5. Manohar	755	17. Muhammad Ashraf ...	1057
6. Núr-ud-dín	805	18. Muhammad Saiyad ...	1090
7. Baháwa'dín	823	19. Muhammad Yusuf ...	1120
8. Muhammad	855	20. Muhammad	1135
9. Ahmad	879	21. Muhammad Ghulám Rasúl	1179
10. Ataulla	901	22. Muhammad Yár ...	1223
11. Muhammad	918	23. Sharf-ud-dín	1243
12. Ibrahím	940	24. Allah Jowáya	1261

The construction of the road passing between Jhang and Bahá-walpur State has added immensely to the commercial importance of

* General Cunningham, Anc. Geog., i., p. 218.

Chapter VI.

Towns and Municipalities.

Population and vital statistics.

Pák Pattan, having attracted to it much of the commerce carried on by Afghán traders.

The population, as ascertained at the enumerations of 1868, 1875, and 1881, is shown in the margin. The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881.

Limits of enumeration.	Year of Census.	Persons.	Males.	Females.
Whole town ..	1868	6,086	3,264	2,822
	1881	5,993	3,160	2,833
Municipal limit ..	1868	6,086		
	1875	5,723		
	1881	5,993		

STATISTICAL TABLES

APPENDED TO THE

GAZETTEER

OF THE

MONTGOMERY DISTRICT.

(INDEX ON REVERSE).

"ARYA PRESS," LAHORE.

STATISTICAL TABLES.

Table No. II, showing DEVELOPMENT.

1	2	3	4	5	6	7
DETAILS.	1853-54.	1858-59.	1863-64.	1868-69.	1873-74.	1878-79.
Population ..	..	..	..	360,445	..	426,529
Cultivated acres ..	..	..	..	538,240	420,957	357,622
Irrigated acres ..	..	..	..	225,195	328,915	347,809
Ditto (from Government works) ..	..	..	..	66,495	101,837	78,827
Assessed Land Revenue, rupees ..	..	..	..	3,26,785	3,20,761	3,17,352
Revenue from land, rupees ..	..	..	..	2,83,073	4,58,364	2,95,208
Gross revenue, rupees ..	..	..	..	4,14,220	5,26,150	6,85,831
Number of kine ..	..	..	..	226,225	241,760	260,636
" sheep and goats ..	..	..	..	270,407	272,159	469,766
" camels ..	..	..	..	7,912	11,748	1,737
Miles of metalled roads ..	..	..	..	} 941 {	..	..
" unmetalled roads ..	..	..	..		1,052	1,007
" Railways ..	..	..	..	84	82	82
Police staff ..	..	..	526	584	518	497
Prisoners convicted ..	845	841	920	1,592	1,850	1,264
Civil suits,—number ..	2,480	1,548	1,513	2,699	4,065	2,945
" —value in rupees ..	99,832	97,084	1,01,181	1,16,826	1,72,859	2,19,618
Municipalities,—number ..	..	..	..	..	3	5
" —income in rupees ..	..	..	..	7,337	10,548	10,719
Dispensaries,—number of ..	..	..	..	1	1	5
" —patients ..	..	..	..	2,599	3,672	22,158
Schools,—number of ..	..	..	30	40	22	27
" —scholars ..	..	..	961	1,366	1,321	1,343

NOTE.—These figures are taken from Tables Nos. I, III, VIII, XI, XV, XXI, XLI, XLV, L, LIX, and LXI, of the Administration Report.

Table No. III, showing RAINFALL.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Rain-gauge station.	ANNUAL RAINFALL IN TENTHS OF AN INCH.																	
	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	Average.
Montgomery ..	42	50	72	239	100	80	92	75	94	14	208	88	187	50	116	114	122	103
Gugera ..	62	76	47	62	38	44	55	79	84	98	84	116	121	88	64	197	124	69
Dipalpur ..	67	112	99	111	42	45	108	65	71	170	85	96	53	8	54	166	137	88
Pakpattan ..	36	86	62	173	66	30	120	77	91	92	75	83	120	54	72	139	74	85

NOTE.—These figures are taken from the weekly rainfall statements published in the *Punjab Gazette*.

Table No. IIIA, showing RAINFALL at head-quarters.

1	2	3	1	2	3
	Annual Averages.			Annual Averages.	
MONTHS.	No. of rainy days in each month—1867 to 1876.	Rainfall in tenths of an inch in each month—1867 to 1881.	MONTHS.	No. of rainy days in each month—1867 to 1876.	Rainfall in tenths of an inch in each month—1867 to 1881.
January ..	1	2	September ..	2	9
February ..	1	8	October ..	..	..
March ..	2	8	November ..	..	1
April ..	1	2	December ..	1	4
May ..	1	4	1st October to 1st January ..	1	4
June ..	1	11	1st January to 1st April ..	3	18
July ..	3	31	1st April to 1st October ..	11	80
August ..	3	23	Whole year ..	15	102

Note.—These figures are taken from Table No. XXIV of the Revenue Report, and from page 34 of the Famine Report.

Table No. IIIB, showing RAINFALL at Tahsil Stations.

1	2	3	4	5
	Average fall in tenths of an inch, from 1873-74 to 1877-78.			
Tahsil Stations.	1st October to 1st January.	1st January to 1st April.	1st April to 1st October.	Whole year.
Gugera ..	1	16	59	76
Dipalpur ..	2	12	81	95
Pakpattan ..	1	5	80	86

Note.—These figures are taken from pages 36, 37 of the Famine Report.

Table No. V, showing the DISTRIBUTION of POPULATION.

1		2	3	4	5	6
		District.	Tahsil. Montgomery	Tahsil. Gugera.	Tahsil. Dipalpur.	Tahsil. Pakpattan.
Total square miles ..		5,574	1,815	1,498	956	1,505
Cultivated square miles ..		559	53	81	233	192
Culturable square miles ..		4,791	1,734	1,369	649	1,069
Square miles under crops (average 1877 to 1881)		562	99	98	274	91
Total population ..		426,529	94,127	99,200	154,590	78,612
Urban population ..		23,589	10,772	3,389	3,435	5,993
Rural population ..		402,940	83,355	95,811	151,155	72,619
Total population per square mile ..		77	52	66	162	60
Rural population per square mile ..		72	46	64	158	56
Towns & villages.	Over 10,000 souls ..	..	..	..	..	..
	5,000 to 10,000 ..	2	1	..	..	1
	3,000 to 5,000 ..	3	1	1	1	..
	2,000 to 3,000 ..	3	1	..	2	..
	1,000 to 2,000 ..	64	9	18	25	12
	500 to 1,000 ..	132	30	20	63	19
	Under 500 ..	1,412	342	336	400	334
	Total ..	1,616	384	375	491	366
Occupied houses ..	Towns ..	4,181	1,510	654	639	1,378
	Villages ..	70,649	13,956	16,132	27,644	12,917
Unoccupied houses ..	Towns ..	2,019	906	327	476	310
	Villages ..	21,963	1,736	3,500	13,052	3,675
Resident families ..	Towns ..	5,150	2,262	672	815	1,401
	Villages ..	80,435	16,246	18,970	30,547	14,672

Note.—These figures are taken from Tables Nos. I and XVIII of the Census of 1881, except the cultivated, culturable and crop areas, which are taken from Tables Nos. I and XLIV of the Administration Report.

Table No. VI, showing MIGRATION.

1	2	3	4	5	6	7	8	9
			Males per 1,000 of both sexes.		Distribution of Immigrants by Tahsils.			
Districts.	Immigrants.	Emigrants.	Immigrants.	Emigrants.	Montgomery.	Gugera.	Dipalpur.	Pakpattan.
Sirsa ..	3,410	3,876	514	576	81	38	2,661	680
Amritsar ..	1,086	161	609	696	250	130	462	244
Lahore ..	14,974	11,562	508	529	1,095	3,836	9,381	662
Gujranwala ..	1,217	861	597	531	168	686	248	115
Ferozepore ..	2,148	3,541	512	426	42	73	1,791	242
Mooltan ..	1,838	3,480	571	602	1,044	69	182	543
Jhang ..	4,410	3,336	594	592	2,282	1,657	252	219
Native States ..	3,289	14,913	548	559	116	70	1,135	1,968

Note.—These figures are taken from Table No. XI of the Census Report of 1881.

Table No. VII, showing RELIGION and SEX.

1	2	3	4	5	6	7	8	9
	District.			Tahsils.				
	Persons.	Males.	Females.	Montgomery.	Gugera.	Dipalpur.	Pakpattan.	Villages.
Persons ..	426,520	..	..	94,127	99,200	154,590	78,612	402,940
Males ..	..	232,947	..	52,852	53,863	83,549	42,683	219,773
Females ..	..	..	193,582	41,275	45,337	71,041	35,929	183,167
Hindus ..	83,974	45,486	38,488	19,117	14,527	30,379	19,951	74,864
Sikhs ..	11,964	7,128	4,836	1,369	3,064	6,068	1,463	11,373
Jains ..	1	1	..	1	..	..	..	..
Buddhists ..	..	..	..	..	..	..	..	..
Zoroastrians ..	2	2	..	2	..	..	..	2
Musalmans ..	330,495	180,274	150,221	73,562	81,609	118,126	57,198	316,651
Christians ..	93	56	37	76	..	17	..	50
Others and unspecified ..	..	..	..	..	..	..	..	..
European & Eurasian Christians	73	48	25	68	..	5	..	..
Sunnis ..	328,357	179,105	149,252	72,201	81,014	118,004	57,138	314,969
Shiahs ..	1,953	1,032	921	1,217	554	122	60	1,498
Wahabis ..	1	1	..		1	..	..	1

Note.—These figures are taken from Tables Nos. III, IIIA, IIIB of the Census of 1881.

Table No. VIII, showing LANGUAGES.

1	2	3	4	5	6
		Distribution by Tahsils.			
Language.	District.	Montgomery	Gugera.	Dipalpur.	Pakpattan
Hindustani ..	1,046	485	66	365	130
Bagri ..	442	17	11	314	100
Panjabi ..	424,476	93,361	99,083	153,725	78,307
Jatki ..	119	2	19	98	..
Pashtu ..	277	183	2	69	2[illegible]
Pahari ..	5	..	..	5	..
Kashmiri ..	35	10	15	1	[illegible]
Sindhi ..	45	1	2	1	4[illegible]
Persian ..	6	2	1	2	[illegible]
English ..	67	56	..	11	..

Note.—These figures are taken from Table No. IX of the Census Report for 1881.

Table No. IX, showing MAJOR CASTES and TRIBES.

1	2	3	4	5	6	7	8	9	10
Serial No. in Census Table No. VIIIA.	Caste or tribe.	TOTAL NUMBERS.			MALES, BY RELIGION.				Proportion per mille of population.
		Persons.	Males.	Females.	Hindu.	Sikh.	Jain.	Musalman	
	Total population	426,529	232,947	193,582	45,486	7,128	1	180,274	1,000
18	Biloch	13,513	7,219	6,294	..	..	..	7,219	32
6	Pathan	1,987	1,222	765	..	..	..	1,222	5
1	Jat	42,707	23,882	18,825	231	616	..	23,035	100
2	Rajput	56,575	31,755	24,820	239	351	..	31,165	132
58	Khokhar	2,866	1,577	1,289	..	..	..	1,577	7
77	Kharral	15,643	8,748	6,895	..	..	..	8,748	37
7	Arain	22,889	12,140	10,749	..	..	..	12,140	54
83	Kamboh	14,673	7,887	6,786	7,389	179	..	319	34
51	Mahtam	13,147	6,886	6,261	4,690	1,979	..	217	31
17	Shekh	4,740	2,623	2,117	..	..	..	2,623	11
3	Brahman	3,168	1,851	1,317	1,784	67	..	..	7
24	Saiyad	4,225	2,307	1,918	..	..	..	2,307	10
21	Nai	6,477	3,472	3,005	5	15	..	3,452	15
25	Mirasi	9,695	5,156	4,539	..	..	..	5,156	23
16	Khatri	4,492	2,501	1,991	2,039	462	..	..	11
10	Arora	51,260	28,152	23,108	24,998	3,095	..	59	120
44	Khojah	4,440	2,410	2,030	..	..	..	2,410	10
89	Bazigar	2,349	1,189	1,160	1,182	1	..	6	6
4	Chuhra	28,857	15,624	13,233	778	114	..	14,732	68
19	Mochi	14,118	7,588	6,530	..	..	..	7,588	23
9	Julaha	20,454	11,052	9,402	..	..	..	11,052	48
28	Machhi	22,059	11,804	10,255	..	..	..	11,804	52
22	Lohar	3,673	1,963	1,710	..	1	..	1,962	9
11	Tarkhan	9,499	5,100	4,399	57	119	..	4,924	22
13	Kumhar	17,865	9,552	8,313	30	5	..	9,517	42
59	Charhoa	6,049	3,225	2,824	6	6	..	3,213	14
38	Qassab	5,170	2,769	2,401	..	..	..	2,760	12
30	Sunar	3,265	1,702	1,563	685	59	..	958	8

NOTE.—These figures are taken from Table No. VIIIA of the Census of 1881.

Table No. IXA, showing MINOR CASTES and TRIBES.

1	2	3	4	5
Serial No. in Census Table No. VIIIA.	Caste or tribe.	Persons.	Males.	Females
12	Awan	515	277	238
23	Teli	1,557	835	722
32	Dhobi	1,429	733	696
35	Faqir Miscls. and unspecified	1,768	1,048	720
37	Mughal	1,620	894	726
40	Jogi	513	323	190
48	Bharai	1,405	785	620
70	Ulama	760	404	356
76	Nungar	1,133	604	529
85	Od	706	372	334
116	Chishti	674	341	333

NOTE.—These figures are taken from Table No. VIIIA of the Census of 1881.

Table No. X, showing CIVIL CONDITION.

1	2	3	4	5	6	7	8
DETAILS		SINGLE.		MARRIED.		WIDOWED.	
		Males.	Females.	Males.	Females.	Males.	Females.
Actual figures for religions.	All religions ..	140,464	87,317	81,782	82,242	10,701	24,023
	Hindus ..	26,977	16,288	16,097	16,754	2,412	5,446
	Sikhs ..	3,875	2,025	2,872	2,206	381	605
	Jains ..	1	..	..	..	..	..
	Buddhists ..	...	...	...	...	...	...
	Musalmans ..	109,585	68,983	62,785	63,269	79,04	17,969
	Christians ..	26	21	26	13	4	3
Distribution of every 10,000 souls of each age.	All ages ..	6,030	4,311	3,511	4,248	459	1,241
	0—10 ..	9,994	9,982	6	18	..	..
	10—15 ..	9,747	8,828	249	1,158	4	14
	15—20 ..	8,342	3,315	1,627	6,549	30	136
	20—25 ..	6,069	625	3,813	9,063	118	312
	25—30 ..	3,967	212	5,826	9,237	207	551
	30—40 ..	2,178	98	7,417	8,688	405	1,214
	40—50 ..	1,361	65	7,834	7,022	805	2,913
	50—60 ..	1,211	86	7,368	5,027	1,420	4,887
	Over 60 ..	1,151	66	6,030	2,386	2,818	7,548

NOTE.—These figures are taken from Table No. VI of the Census Report.

Table No. XI, showing BIRTHS and DEATHS.

1	2	3	4	5	6	7	8	9	10
YEARS.	TOTAL BIRTHS REGISTERED.			TOTAL DEATHS REGISTERED.			TOTAL DEATHS FROM		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Cholera.	Small-pox.	Fever.
1877 ..	..	..	..	4,342	3,311	7,653	..	511	4,881
1878 ..	..	..	..	5,886	5,098	10,984	..	3,086	5,810
1879 ..	...	..	..	4,414	3,160	7,574	101	989	4,933
1880 ..	6,260	5,445	11,705	4,005	3,235	7,240	..	185	4,861
1881 ..	7,487	6,533	14,020	5,369	4,579	9,948	5	148	7,070

NOTE.—These figures are taken from Tables Nos. I, II, VII, VIII and IX of the Sanitary Report.

Table No. XI A, showing MONTHLY DEATHS from ALL CAUSES.

1	2	3	4	5	6	7
MONTH.	1877.	1878.	1879.	1880.	1881.	Total.
January ..	904	765	1,013	739	857	4,278
February ..	772	750	877	639	690	3,728
March ..	616	854	879	533	626	3,508
April ..	597	918	534	408	523	2,980
May ..	625	1,085	549	582	622	3,463
June ..	653	875	506	587	597	3,168
July ..	473	734	459	451	530	2,647
August ..	467	653	345	601	475	2,541
September ..	397	734	389	553	607	2,680
October ..	530	1,180	586	661	1,291	4,248
November ..	731	1,270	731	726	1,687	5,145
December ..	888	1,166	766	810	1,443	5,013
Total ..	7,653	10,984	7,574	7,240	9,948	43,399

NOTE.—These figures are taken from Table No. III of the Sanitary Report.

Table No. XI B, showing MONTHLY DEATHS from FEVER.

1	2	3	4	5	6	7
MONTH.	1877.	1878.	1879.	1880.	1881.	Total.
January ..	671	446	691	554	593	2,955
February ..	559	389	565	445	476	2,434
March ..	394	364	510	346	418	2,032
April ..	358	305	339	254	330	1,586
May ..	388	365	327	385	408	1,873
June ..	418	266	306	368	376	1,734
July ..	295	236	264	243	300	1,338
August ..	276	225	180	371	268	1,320
September ..	225	452	212	380	376	1,645
October ..	312	898	444	437	1,014	3,105
November ..	458	1,012	536	495	1,365	3,866
December ..	527	852	559	583	1,146	3,667
TOTAL ..	4,881	5,810	4,983	4,861	7,070	27,[illegible]

NOTE.—These figures are taken from Table No. IX of the Sanitary Report.

Table No. XII, showing INFIRMITIES.

1	2	3	4	5	6	7	8	9
	INSANE.		BLIND.		DEAF AND DUMB.		LEPERS.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
All religions { Total ..	237	107	1,366	1,155	272	123	19	6
All religions { Villages ..	220	98	1,298	1,073	255	115	19	6
Hindus ..	46	11	250	204	45	23	6	..
Sikhs ..	4	..	18	11	3	1	..	..
Musalmans ..	187	96	1,008	940	224	99	13	6

NOTE.—These figures are taken from Tables Nos. XIV to XVII of the Census of 1881.

Table No. XIII, showing EDUCATION.

1	2	3	4	5
	MALES.		FEMALES.	
	Under instruction.	Can read and write.	Under instruction.	Can read and write.
All religions { Total ..	3,393	11,356	63	47
All religions { Villages ..	2,483	8,967	39	27
Hindus ..	1,983	8,629	9	15
Sikhs ..	204	1,006	2	1
Jains ..	..	..	..	..
Buddhists				
Musalmans ..	1,190	1,684	46	16
Christians ..	7	37	6	15
Tahsil Montgomery ..	1,142	3,239	30	21
" Gugera ..	877	2,726	20	8
" Dipalpur ..	696	3,185	5	10
" Pakpattan ..	679	2,906	[illegible]	6

NOTE.—These figures are taken from Table No. XIII of the Census of 1881.

Table No. XIV, showing detail of SURVEYED and ASSESSED AREA.

1	2	3	4	5	6	7	8	9	10	11	12
	CULTIVATED.				UNCULTIVATED.						
	Irrigated.										
	By Government works.	By private individuals.	Unirrigated.	Total cultivated.	Grazing lands.	Culturable.	Unculturable.	Total uncultivated.	Total area assessed.	Gross assessment.	Unappropriated culturable waste, the property of Govt.
1868-69	66,495	158,700	313,045	538,240	..	604,667	2,426,839	3,031,506	3,569,746	326,785	2,298,554
1873-74	101,837	227,078	92,042	420,957	1,130	3,020,247	124,594	3,145,971	3,566,928	320,761	2,202,797
1878-79	78,827	268,982	9,813	357,622	..	3,066,562	143,566	3,210,128	3,567,750	317,352	664,813
Tahsil details for 1878-79—											
Tahsil Montgomery	..	31,994	1,665	33,659	..	1,100,825	18,243	1,128,068	1,161,727	75,510	174,808
" Gugera ..		50,182	1,833	52,015		875,964	30,913	906,877	958,892	60,212	111,190
" Dipalpur ..	47,681	100,214	1,116	149,011	..	415,195	47,552	462,747	611,758	110,424	94,447
" Pakpattan ..	31,146	86,592	5,199	122,937	..	665,578	46,858	712,436	835,373	53,206	284,371

NOTE.—These figures are taken from Table No. VIII of the Administration Report, except the last column, which is taken from Table No. I of the same Report.

Table No. XV, showing TENURES held direct from Government as they stood in 1878-79.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	Whole District.				Tahsil Montgomery.				Tahsil Gugera.				Tahsil Dipalpur.				Tahsil Pakpattan.			
Nature of Tenure.	Number of estates.	Number of villages.	Number of holders or shareholders.	Gross area in acres.	Number of estates.	Number of villages.	Number of holders or shareholders.	Gross area in acres.	Number of estates.	Number of villages.	Number of holders or shareholders.	Gross area in acres.	Number of estates.	Number of villages.	Number of holders or shareholders.	Gross area in acres.	Number of estates.	Number of villages.	Number of holders or shareholders.	Gross area in acres.
A.—Estates not being village communities, and paying in common (Zamindari)																				
IV.—Paying 1,000 rupees revenue and under. Held by individuals or families under the ordinary law.	194	194	141	70,863	27	27	27	3,476	29	29	29	7,215	71	71	47	32,282	67	67	38	27,890
Proprietary cultivating village communities.																				
B.—Zamindari. Paying the revenue and holding the land in common.	1,128	1,128	8,559	509,399	235	235	1,893	96,075	229	229	1,023	85,151	355	355	2,527	210,457	309	309	2,014	117,716
C.—Pattidari. The land and revenue being divided upon ancestral or customary shares, subject to succession by the law of inheritance.	71	71	2,344	63,596	33	33	1,418	25,001	21	21	655	15,696	2	2	28	3,368	15	15	243	19,531
D.—Bhayachara. In which possession is the measure of right in all lands.	271	271	9,776	319,740	105	105	3,908	101,257	58	58	1,965	45,800	42	42	1,857	72,208	66	66	1,980	100,376
E.—Mixed or imperfect pattidari or bhayachara. In which the lands are held partly in severalty and partly in common, the measure of right in common land being the amount of the share or the extent of land held in severalty.	407	407	12,555	398,911	47	47	2,655	55,705	180	180	7,441	152,944	142	142	2,144	152,781	38	38	685	38,481
F.—Grantees of Government not falling under any previous class, and paying revenue direct to Government in the position of:—																				
I.—Proprietors, including individuals rewarded for service or otherwise, but no purchasers of Government waste	4	4	5	7,286	..	..	..	..	..	..	..	..	3	3	4	4,287	1	1	1	2,999
II.—Lessees	199	199	590	27,440	32	32	53	1,855	42	42	211	2,490	63	63	118	11,503	62	62	208	11,592
G.—Landholders who have redeemed the revenue and are not members of any village community nor included in any previous class.	3	3	1	9,000	..	..	..	..	..	..	..	..	..	..	..	..	3	3	1	9,009
I.—Government waste, reserved or unassigned	146	146	..	2,265,134	57	57	..	897,951	32	32	..	719,313	35	35	..	116,830	22	22	..	531,040
Total	2,423	2,423	34,065	3,656,379	536	536	9,094	1,121,339	591	591	12,225	978,618	713	713	6,725	663,716	583	583	5,120	852,625

Note.—These figures are taken from Table No. XXXIII of the Revenue Report for 1878-79.

Table No. XVI, showing TENURES not held direct from Government as they stood in 1878-79.

1	2	3	4	5	6	7	8	9	10	11
NATURE OF TENURE.	DISTRICT MONTGOMERY.		TAHSIL MONTGOMERY.		TAHSIL GUGERA.		TAHSIL DIPALPUR.		TAHSIL PAKPATTAN.	
	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.
A.—TENANTS WITH RIGHT OF OCCUPANCY.										
I. Paying rent in cash. (a) Paying the amount of Government revenue only to the proprietors.	104	692	29	237	52	269	22	181	1	5
(b) Paying such amount, plus a cash *malikanah*	1,998	13,097	997	6,965	809	3,828	191	2,299	1	5
(d) Paying lump sums (cash) for their holdings	4	82	1	18	..	..	3	64	..	..
Total paying rent in cash	2,106	13,871	1,027	7,220	861	4,097	216	2,544	2	10
II. Paying rent in kind. (a) Paying a stated share of the produce in kind. (1) Paying ½ produce and more	64	535	63	499	..	..	..	..	1	36
(2) ⅓ produce and less than ½ produce	1,287	7,862	820	6,065	359	1,148	100	624	8	25
(3) ¼ " ⅓ "	391	3,225	24	297	145	1,006	71	354	151	1,568
(4) ⅕ " ¼ "	840	18,228	..	..	18	94	819	18,007	8	127
Total paying rent in kind	2,582	29,850	907	6,861	517	2,248	990	18,985	168	1,756
GRAND TOTAL of Tenants with rights of occupancy	4,688	43,721	1,934	14,081	1,378	6,345	1,206	21,529	170	1,766
B.—TENANTS HOLDING CONDITIONALLY.										
II. For period on lease. (a) Written	5	151	..	..	3	101	..	..	2	50
(b) Not written	23	452	..	..	..	..	23	452	..	..
C.—TENANTS-AT-WILL.										
I. Paying in cash	900	5,132	420	1,536	480	3,596	..	..	..	..
II. Paying in kind. (a) ½ produce and more	2,735	23,475	2,735	23,475	..	..	..	..	..	..
(b) less than ½ produce	1,9146	238,879	4,868	24,054	5,164	39,280	5,050	100,110	4,064	75,435
D.—PARTIES HOLDING AND CULTIVATING SERVICE-GRANTS FROM PROPRIETORS FREE OF ALL REVENUE.										
I. Sankalap or Dharmarth	2	24	1	21	..	..	..	..	1	3
II. Conditional on service	1	1	1	1	..	..	..	..	..	..
GRAND TOTAL OF TENURES	27,500	311,335	9,959	63,103	7,025	49,322	6,279	122,091	4,237	77,254

NOTE.—These figures are taken from Table No. XXXIV of the Revenue Report.

Table No. XVII, showing GOVERNMENT LANDS.

1	2	3	4	5	6	7	8	9
			Acres held under cultivating leases.		Remaining acres.			
	No. of estates.	Total acres.	Cultivated.	Uncultivated.	Under Forest Department.	Under other Departments.	Under Deputy Commissioner.	Average yearly income, 1877-78 to 1881-82.
Whole District ..	249	22,73,872	15,026	27,717	547,380	4,000	1,679,749	120,671
Tahsil Montgomery ..	51	894,702	1,333	2,526	303,977	1,000	591,516	
Tahsil Gugera ..	40	721,672	2,180	2,469	243,403	..	465,148	
Tahsil Dipalpur ..	73	123,468	5,030	14,411	..	3,000	100,864	
Tahsil Pakpattan ..	76	534,030	6,533	8,311	..	..	522,231	

NOTE.—These figures are taken from Table No. IX of the Revenue Report of 1881-82.

Table No. XIX, showing LAND ACQUIRED by GOVERNMENT.

Purpose for which acquired.	Acres acquired.	Compensation paid in rupees.	Reduction of revenue in rupees.
Roads ..	738	3,324	42
Canals ..	2,414	17,934	362
State Railways ..	..	..	..
Guaranteed Railways ..	94	521	27
Miscellaneous ..	20	200	3
Total ..	3,266	21,979	434

NOTE.—These figures are taken from Table No. XI of the Revenue Report.

Table No. XX, showing ACRES UNDER CROPS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
YEARS.	Total	Rice	Wheat.	Jawar.	Bajra.	Makai.	Jau.	Gram.	Moth.	Poppy.	Tobacco.	Cotton.	Indigo.	Sugarcane.	Vegetables.
1873-74 ..	373,944	8,011	189,709	32,938	321	2,398	23,919	16,805	2,235	128	1,412	18,131	3	459	2,772
1874-75 ..	370,543	8,716	193,332	30,471	357	2,261	33,809	15,269	2,073	90	1,677	19,945	21	59	2,884
1875-76 ..	370,416	9,732	190,692	33,224	291	1,740	34,727	15,295	1,763	120	1,474	20,386	4	81	2,830
1876-77 ..	489,174	7,870	263,494	28,920	172	2,512	21,802	81,616	60,68[illegible]	94	851	15,838	8	113	1,423
1877-78 ..	393,410	9,631	238,561	26,2[illegible]	157	1,541	23,667	54,133	2,633	45	1,366	21,604	2	160	2,764
1878-79 ..	271,651	8,241	151,573	24,166	338	1,508	12,572	11,048	758	60	1,243	28,178	11	160	2,009
1879-80 ..	359,263	20,490	183,442	21,423	223	1,931	22,177	21,190	1,579	80	1,089	23,067	1	166	1,981
1880-81 ..	371,749	19,047	231,299	21,211	306	2,728	18,095	21,844	1,518	46	1,280	23,472	3	175	2,248
1881-82 ..	403,156	16,209	194,998	36,527	399	4,044	14,668	24,153	1,072	83	1,635	20,462	..	183	2,041
NAME OF TAHSIL.	TAHSIL AVERAGES FOR THE FIVE YEARS, FROM 1877-78 TO 1881-82.														
Montgomery	63,153	5	37,715	1,287	:	16	1,074	9,543	18	1	219	2,094	..	0	602
Gugera ..	62,511	2,661	29,981	4,400	3[illegible]	1,281	6,446	3,154	783	27	405	2,257	..	27	614
Dipalpur ..	175,024	11,874	90,114	14,907	13	1,230	10,747	10,775	709	31	499	15,499	3	123	550
Pakpattan ..	58,753	364	30,165	5,328	9[illegible]	21	952	3,002	11	3	200	3,806	..	5	443
TOTAL ..	359,446	14,904	187,975	25,922	265	2,548	19,219	26,474	1,521	63	1,323	24,356	3	164	2,209

NOTE.—These figures are taken from Table No. XLIV of the Administration Report.

Table No. XXI, showing RENT RATES and AVERAGE YIELD.

1			2			3
Nature of crop.			Rent per acre of land suited for the various crops, as it stood in 1881-82.			Average produce per acre as estimated in 1881-82.
			Rs.	A.	P.	lbs.
Rice		Maximum	9	3	5	958
		Minimum	7	5	0	
Indigo		Maximum	..	..	..	..
		Minimum	..	..	..	
Cotton		Maximum	8	2	9	191
		Minimum	6	5	10	
Sugar		Maximum	34	5	2	..
		Minimum	27	4	0	
Opium		Maximum	14	1	5	7
		Minimum	16	5	2	
Tobacco		Maximum	13	6	4	860
		Minimum	10	6	4	
Wheat	Irrigated	Maximum	9	6	10	987
		Minimum	6	6	10	
	Unirrigated	Maximum	4	12	4	
		Minimum	3	11	9	
Inferior grains	Irrigated	Maximum	4	6	4	600
		Minimum	3	5	8	
	Unirrigated	Maximum	3	11	11	
		Minimum	2	15	8	
Oil seeds	Irrigated	Maximum	5	14	8	404
		Minimum	4	2	9	
	Unirrigated	Maximum	3	0	9	
		Minimum	2	8	6	
Fibres	Irrigated	Maximum	6	0	0	400
		Minimum	4	0	0	
	Unirrigated	Maximum	..	..	..	
		Minimum	..	..	..	
Gram		..	..	..	..	..
Barley		..	..	..	..	..
Bajra		..	..	..	..	..
Jawar		..	..	..	..	..
Vegetables		..	..	..	..	..
Tea		..	..	..	..	..

NOTE.—These figures are taken from Table No. XLVI of the Administration Report.

Table No. XXII, showing NUMBER of STOCK.

1	2	3	4	5	6	7	8
Kind of stock.	Whole district for the years			Tahsils for the year 1878-79.			
	1868-69.	1873-74.	1878-79.	Montgomery.	Gugera.	Dipalpur.	Pakpattan.
Cows and bullocks	226,225	241,760	260,636	57,533	64,780	90,522	47.801
Horses	1,600	1,375	472	45	10	342	75
Ponies	35	4,125	866	55	210	491	110
Donkeys	4,995	4,995	6,951	775	1,500	3,633	1,043
Sheep and goats	270,407	272,159	469,766	108,677	115,227	125,111	120,751
Pigs	..	..	..	..	..	..	..
Camels	7,912	11,748	1,737	535	..	140	1,062
Carts	..	32	70	13	15	33	9
Ploughs	29,999	40,275	40,792	3,375	10,500	17,942	8,975
Boats	44	61	48	14	13	8	13

NOTE.—These figures are taken from Table No. XLV of the Administration Report.

Table No. XXIII, showing OCCUPATIONS of MALES.

1	2	3	4	5	1	2	3	4	5
Number.	Nature of occupations.	*Males above 15 years of age.*			Number.	Nature of occupations.	*Males above 15 years of age.*		
		Towns.	Villages.	Total.			Towns.	Villages.	Total.
1	Total population	8,555	128,623	137,178	17	Agricultural labourers	...	...	...
2	Occupation specified	7,947	112,897	120,844	18	Pastoral	147	9,253	9,400
3	Agricultural, whether simple or combined.	1,530	61,290	62,820	19	Cooks and other servants	217	914	1,131
4	Civil Administration	729	1,363	2,092	20	Water-carriers	83	361	444
5	Army	7	46	53	21	Sweepers and scavengers	51	553	604
6	Religion	220	1,394	1,614	22	Workers in reed, cane, leaves, straw, &c.	75	4,832	4,907
7	Barbers	90	1,484	1,574	23	Workers in leather	50	57	107
8	Other professions	96	331	427	24	Boot-makers	93	2,950	3,043
9	Money-lenders, general traders, pedlars, &c.	364	810	1,174	25	Workers in wool and pashm	22	21	43
10	Dealers in grain and flour	591	4,454	5,045	26	" " silk	67	10	77
11	Corn-grinders, parchers, &c.	44	535	579	27	" " cotton	682	7,244	7,926
12	Confectioners, green-grocers, &c.	134	281	415	28	" " wood	268	4,112	4,380
13	Carriers and boatmen	215	2,241	2,456	29	Potters	94	3,131	3,225
14	Landowners	465	12,974	13,439	30	Workers and dealers in gold and silver.	134	902	1,036
15	Tenants	837	38,506	39,343	31	Workers in iron	43	772	815
16	Joint-cultivators	50	2,843	2,893	32	General labourers	469	4,928	5,397
					33	Beggars, faqirs, and the like	976	8,748	9,724

NOTE.—These figures are taken from Table No. XII A of the Census Report of 1881.

Table No. XXIV, showing MANUFACTURES.

1	2	3	4	5	6	7	8	9	10	11
	Silk.	Cotton.	Wool.	Other fabrics.	Paper.	Wood.	Iron.	Brass and copper.	Buildings.	Dyeing and manufacturing of dyes.
Number of mills and large factories	...	...	...	...	...	...	...	...	...	...
Number of private looms or small works.	...	3,209	...	...	1	465	426	19	94	503
Number of workmen in large works. Male	...	...	...	...	...	...	...	...	...	...
Number of workmen in large works. Female	...	...	...	...	...	...	...	...	...	...
Number of workmen in small works or independent artisans.	...	4,830	...	...	81	1,136	730	22	138	988
Value of plant in large works	...	...	...	...	...	...	...	...	...	...
Estimated annual out-turn of all works in rupees.	...	6,99,759	...	...	3,709	1,57,499	1,05,516	4,502	56,788	5,92,085

	12	13	14	15	16	17	18	19
	Leather.	Pottery, common and glazed.	Oil-pressing and refining.	Pashmina and Shawls.	Carpets.	Gold, silver, and Jewellery.	Other manufactures.	Total.
Number of mills and large factories	...	...	...	...	...	...	...	...
Number of private looms or small works.	552	1,119	52	...	3	308	641	7,378
Number of workmen in large works. Male	...	...	...	...	...	...	...	...
Number of workmen in large works. Female	...	...	...	...	...	...	...	...
Number of workmen in small works or independent artisans.	1,340	1,861	124	...	16	384	1,542	13,512
Value of plant in large works	...	...	...	...	...	...	...	...
Estimated annual out-turn of all works in rupees.	2,14,868	1,37,066	63,162	...	2,984	3,47,498	3,14,321	29,93,085

NOTE.—These figures are taken from the Report on Internal Trade and Manufactures for 1881-82.

TABLE No. XXV, showing RIVER TRAFFIC.

1	2	3	4	5	6
TRADE.		PRINCIPAL MERCHANDISE CARRIED.	*Average duration of Voyage in days.*		Distance in miles.
From	To		Summer, or floods.	Winter, or low water.	
Sakkar	Ferozepore	Iron and Sajji	90	120	400
Ferozepore	Sakkar	Wheat, gram, til, rape and wool	30	45	400
Do.	Kotri	Do. do.	40	50	600

NOTE.—These figures are taken from pages 759, 760 of the Famine Report.

Table No. XXVI, showing RETAIL PRICES.

1	2		3		4		5		6		7		8		9		10		11		12		13		14		15		16	
	NUMBER OF SEERS AND CHITANKS PER RUPEE.																													
YEAR.	Wheat.		Barley.		Gram.		Indian corn.		Jawar.		Bajra.		Rice (fine).		Urd dal.		Potatoes.		Cotton. (cleaned).		Sugar (refined).		Ghi (cow's).		Firewood.		Tobacco.		Salt (Lahori).	
	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.
1861-62 ..	19	7	20	8	20	1	..	..	21	7	19	9	5	9	11	9	..	..	3	1	..	..	1	16	298	9	7	7	..	..
1862-63 ..	28	2	35	12	38	7	..	..	17	2	15	14	8	9	18	7	..	..	2	6	..	..	2	1	298	9	6	5	..	..
1863-64 ..	35	3	49	2	44	9	..	..	18	6	19	2	7	7	21	2	..	..	1	10	..	..	2	8	298	9	6	2	..	..
1864-65 ..	24	4	29	14	29	14	..	..	14	15	..	..	5	9	16	13	..	..	2	5	..	..	2	1	298	9	6	8	..	..
1865-66 ..	18	13	23	7	24	9	..	..	16	9	..	..	6	4	16	5	..	..	2	13	..	..	1	10	211	8	7	..	..	..
1866-67 ..	21	8	29	3	30	4	..	..	16	15	..	..	7	5	17	7	..	..	2	5	..	..	1	7	149	5	6	14	..	..
1867-68 ..	16	15	24	8	22	3	..	..	16	15	..	..	7	7	15	4	..	..	2	15	..	..	1	7	149	5	6	11	..	..
1868-69 ..	14	3	17	4	25	14	..	..	9	3	..	..	6	6	9	1	..	..	2	11	..	..	1	5	149	5	7	10	..	..
1869-70 ..	9	6	10	13	10	7	..	..	11	4	13	5	5	2	10	4	..	..	2	2	..	..	1	8	111	15	8	15	..	..
1870-71 ..	14	7	20	..	18	2	..	..	16	1	15	8	6	5	13	1	..	..	2	3	..	..	1	8	149	5	5	14	..	..
1871-72 ..	16	8	25	8	20	..	18	..	29	..	22	..	7	..	13	..	9	..	2	12	2	..	1	8	160	..	8	..	9	..
1872-73 ..	21	..	23	..	21	..	20	..	24	..	28	..	6	..	14	..	10	..	2	12	2	4	1	8	160	..	7	..	8	..
1873-74 ..	19	..	26	..	26	..	..	..	25	..	24	..	6	..	15	..	8	..	3		3	..	1	12	160	..	6	..	8	..
1874-75 ..	21	..	28	..	31	..	..	..	..	..	..	..	6	..	18	..	13	..	3	..	2	12	1	12	180	..	8	..	9	..
1875-76 ..	19	..	25	..	26	..	..	..	28	..	25	..	6	..	18	..	12	..	2	12	3	..	1	3	180	..	8	..	9	8
1876-77 ..	31	..	50	..	44	..	..	..	30	..	..	..	8	..	18	..	16	..	2	8	3	..	1	10	160	..	8	..	9	..
1877-78 ..	18	..	26	..	23	..	..	..	..	..	18	..	6	8	10	..	12	..	2	8	3	4	1	8	200	..	8	..	9	..
1878-79 ..	12	..	16	..	14	..	14	..	14	..	13	4	4	8	7	..	10	..	2	12	2	8	1	8	160	..	8	..	9	..
1879-80 ..	13	..	18	..	16	..	..	..	17	..	..	..	7	..	10	..	10	..	2	12	2	8	1	6	200	..	8	..	10	..
1880-81 ..	13	12	18	..	17	..	17	..	18	..	..	..	5	..	13	..	12	..	2	3	2	4	1	6	200	..	5	..	10	..
1881-82 ..	19	..	26	..	24	..	20	..	25	..	24	..	5	..	14	..	10	..	2	8	2	4	1	9	200	..	5	..	10	4

NOTE.—The figures for the first ten years are taken from a statement published by Government (Punjab Government No. 209 S. of 19th August 1872), and represent the average prices for the 12 months of each year. The figures for the last ten years are taken from Table No. XLVII of the Administration Report, and represent prices as they stood on the 1st January of each year.

Table No. XXVII, showing PRICE of LABOUR.

1	2	3	4	5	6	7	8	9	10	11	12	13
YEAR.	WAGES OF LABOUR PER DAY.				CARTS PER DAY.		CAMELS PER DAY		DONKEYS PER SCORE PER DAY.		BOATS PER DAY.	
	Skilled.		Unskilled.									
	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P	Rs. A. P
1868-69 ..	0 8 0	0 4 0	0 3 0	0 2 0		1 12 0		0 8 0		3 2 0	2 8 0	2 0 0
1873-74 ..	0 8 0	0 4 0	0 3 0	0 2 0		2 0 0		0 8 0		2 8 0	10 0 0	2 0 0
1878-79 ..	0 8 0	0 6 0	0 4 0	0 3 0	2 0 0	1 0 0	0 8 0	0 3 0	3 12 0	2 8 0	10 0 0	2 0 0
1879-80 ..	0 8 0	0 6 0	0 4 0	0 3 0	2 0 0	1 0 0	0 8 0	0 3 0	3 12 0	2 8 0	10 0 0	2 0 0
1880-81 ..	0 8 0	0 6 0	0 4 0	0 3 0	2 0 0	1 0 0	0 8 0	0 3 0	3 12 0	2 8 0	10 0 0	2 0 0
1881-82 ..	0 8 0	0 6 0	0 4 0	0 3 0	2 0 0	1 0 0	0 8 0	0 3 0	3 12 0	2 8 0	10 0 0	2 0 0

NOTE.—These figures are taken from Table No. XLVIII of the Administration Report.

Table No. XXVIII, showing REVENUE COLLECTED.

1	2	3	4	5	6	7	8	9
YEAR.	Fixed Land Revenue.	Fluctuating and Miscellaneous Land Revenue.	Tribute.	Local rates.	EXCISE.		Stamps.	Total Collections.
					Spirits.	Drugs.		
1868-69	2,88,073	88,675	..	..	8,328	4,462	25,221	4,09,759
1869-70	2,98,648	1,26,125	..	..	7,014	4,019	27,139	4,62,945
1870-71	3,03,280	1,17,679	..	..	7,475	4,057	28,322	4,60,793
1871-72	2,95,742	1,21,533	..	20,821	8,592	4,485	39,369	4,90,542
1872-73	3,01,123	1,36,223	..	22,382	7,846	5,841	34,931	5,08,346
1873-74	3,00,834	1,55,579	..	21,695	8,183	4,948	3[illegible],955	5,24,190
1874-75	3,03,890	1,30,256	..	24,820	8,703	5,430	31,323	5,03,428
1875-76	2,97,480	1,76,519	..	30,483	7,070	5,470	34,197	5,52,119
1876-77	3,06,081	2,57,802	..	32,069	7,697	6,022	31,338	6,41,459
1877-78	2,95,800	1,84,313	..	32,291	8,170	6,429	32,891	5,59,894
1878-79	2,95,208	2,55,402	..	47,729	7,972	6,431	34,294	6,47,036
1879-80	2,86,823	2,24,979	..	42,712	8,349	5,801	37,276	6,05,940
1880-81	2,75,512	2,11,582	..	40,945	9,075	6,177	38,330	5,81,571
1881-82	2,83,060	2,48,778	..	43,451	9,400	6,678	39,414	6,30,776

NOTE.—These figures are taken from Table No. XLIV of the Revenue Report. The following revenue is excluded:—"Canal, Forests, Customs and Salt, Assessed Taxes, Fees, Cesses."

Table No. XXIX, showing REVENUE DERIVED from LAND.

1	2	3	4	5	6	7	8	9	10	11	12	13
YEAR.	Fixed land revenue (demand).	Fluctuating and miscellaneous land revenue (collections).	FLUCTUATING REVENUE.					MISCELLANEOUS REVENUE.				
			Revenue of alluvial lands.	Revenue of waste lands brought ...	Water advantage revenue.	Fluctuating assessment of river lands.	Total fluctuating land revenue.	Grazing dues. By enumeration of cattle.	Grazing dues. By grazing leases.	Sale of wood from rakhs and forests.	Sajji.	Total miscellaneous land revenue.
District Figures.												
Total of 5 years—1868-69 to 1872-73 ..	15,31,538	5,90,235	6,385	2,49[illegible]	49,112	..	91,381	1,25,136	3,00,18[illegible]	23,360	18,921	4,98,854
Total of 5 years—1873-74 to 1877-78 ..	15,31,221	8,71,389	23,756	1,754	2,43,716	..	3,17,298	..	4,95,73[illegible]	15,010	..	5,54,091
1878-79 ..	3,01,938	2,54,880	2,509	..	1,32,027	..	1,42,998	..	1,02,26[illegible]	4,502	..	1,11,989
1879-80 ..	2,98,041	2,16,040	1,577	44[illegible]	92,246	..	1,05,115	..	1,00,34[illegible]	6,1[illegible]	..	1,10,925
1880-81 ..	2,77,449	2,11,099	2,581	331	88,409	13,006	1,09,190	..	93,038	2,102	..	1,01,906
1881-82 ..	2,85,853	2,44,435	1,696	51[illegible]	1,12,40[illegible]	14,538	1,35,891	..	1,01,41[illegible]	4,474	..	1,09,044
Tahsil Totals for 5 years—1877-78 to 1881-82.												
Tahsil Montgomery ..	4,25,140	2,20,931	1,723	379	..	21,206	25,566	..	1,63,268	11,460	19	1,85,353
" Gugera ..	3,33,928	1,26,381	3,488	195	..	6,123	21,681	..	99,344	858	..	1,04,500
" Dipalpur ..	5,46,694	5,47,408	3,308	703	4,41,041	..	4,53,921	..	86,692	2,767	..	93,462
" Pakpattan ..	2,51,115	2,14,991	5,809	565	72,742	..	86,932	..	1,21,671	3,950	..	1,28,039

NOTE.—These figures are taken from Tables Nos. I and III of the Revenue Report.

Table No. XXX, showing ASSIGNED LAND REVENUE.

1	2	3	4	5	6	7	8	9	10	11
TAHSIL.	TOTAL AREA AND REVENUE ASSIGNED.								PERIOD OF ASSIGNMENT.	
	Whole Villages.		*Fractional parts of Villages.*		*Plots.*		*Total.*		*In perpetuity.*	
	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.
Montgomery ..	690	318	2,907	750	1,379	543	4,976	1,611	2,068	903
Gugera ..	6,321	1,14[illegible]	721	148	925	435	7,967	1,727	1,007	191
Dipalpure ..	21,317	2,66[illegible]	28,725	6,150	1,737	520	51,779	9,346	31,933	5,700
Pakpattan ..	4,019	79[illegible]	..	..	804	241	4,823	1,036	..	..
Total District ..	32,347	4,92[illegible]	32,353	7,048	4,845	1,748	60,545	13,720	35,608	6,794

	12	13	14	15	16	17	18	19	20	21	22	23	24	25
TAHSIL.	PERIOD OF ASSIGNMENT.—*Concluded.*								NUMBER OF ASSIGNEES.					
	For one life.		*For more lives than one.*		*During maintenance of Establishment.*		*Pending orders of Government.*							
	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	In perpetuity.	For one life.	For more lives than one.	During maintenances.	Pending orders.	TOTAL.
Montgomery ..	1,678	401	459	215	171	92	..	..	13	37	4	9	..	60
Gugera ..	6,384	1,409	..	..	132	72	444	55	3	49	..	8	1	61
Dipalpure ..	12,895	2,796	4,030	260	2,921	590	..	..	12	46	4	12	..	74
Pakpattan ..	649	144	..	..	4,174	892	..	..	..	17	..	3	..	20
Total District ..	21,606	4,750	4,489	475	7,398	1,646	444	55	28	149	8	29	1	215

NOTE.—These figures are taken from Table No. XII of the Revenue Report for 1881-82.

Table No. XXXI, showing BALANCES, REMISSIONS and TAKAVI.

YEAR.	*Balances of land revenue in rupees.* Fixed revenue.	*Balances of land revenue in rupees.* Fluctuating and miscellaneous revenue.	Reductions of fixed demand on account of bad seasons, deterioration, &c., in rupees.	Takavi advances in rupees.
1868-69 ..	24,466	..	2,536	420
1869-70 ..	11,134	..	40	3,460
1870-71 ..	6,441	..	220	1,320
1871-72 ..	5,084	..	17,954	8,660
1872-73 ..	2,567	..	175	14,180
1873-74 ..	4,664	..	8,898	2,375
1874-75 ..	5,854	..	17,921	5,715
1875-76 ..	11,223	35,892	4,300	4,821
1876-77 ..	7,762	2,028	4,251	1,335
1877-78 ..	7,715	7,455	..	995
1878-79 ..	6,748	14,903	..	530
1879-80 ..	12,322	35,168	4,637	770
1880-81 ..	4,148	9,112	22,236	378
1881-82 ..	8,948	14,639	..	4,270

NOTE.—These figures are taken from Tables Nos. I, II, III, and XVI of the Revenue Report.

Table No. XXXII, showing SALES and MORTGAGES of LAND.

1	2	3	4	5	6	7	8	9	10
YEAR.	SALES OF LAND.						MORTGAGES OF LAND.		
	Agriculturists.			*Non-Agriculturists.*			*Agriculturists.*		
	No. of cases.	Area of land in acres.	Purchase money.	No. of cases.	Area of land in acres.	Purchase money.	No. of cases.	Area of land in acres.	Mortgage money.
DISTRICT FIGURES.									
Total of 6 years—1868-69 to 1873-74 ..	252	15,889	52,508	..	..	..	299	25,891	90,052
Total of 4 years—1874-75 to 1877-78 ..	90	4,496	21,864	58	4,218	22,344	21	1,123	7,532
1878-79 ..	47	2,561	14,574	10	919	7,527	23	3,238	12,093
1879-80 ..	50	2,830	16,848	24	910	8,958	26	2,220	21,556
1880-81 ..	77	5,128	38,260	15	1,268	9,858	22	2,347	7,568
1881-82 ..	89	5,339	31,543	44	2,744	21,446	33	3,085	18,340
TAHSIL TOTALS FOR 5 YEARS—1877-78 TO 1881-82.									
Montgomery ..	91	2,608	21,548	41	1,560	16,283	21	780	6,865
Gugera ..	56	2,382	10,195	20	720	8,111	19	871	8,482
Dipalpur ..	100	8,531	65,027	33	2,651	25,739	51	7,867	41,593
Pakpattan ..	32	2,904	8,153	23	1,875	6,125	15	1,481	4,242

1	11	12	13	14	15	16	17	18	19
YEAR.	MORTGAGES OF LAND.—*Concluded.*			REDEMPTIONS OF MORTGAGED LAND.					
	Non-Agriculturists.			*Agriculturists.*			*Non-Agriculturists.*		
	No. of cases.	Area of land in acres.	Mortgage money.	No. of cases.	Area of land in acres.	Mortgage money.	No. of cases.	Area of land in acres.	Mortgage money.
DISTRICT FIGURES.									
Total of 6 years—1868-69 to 1873-74 ..	..	..	..	..	..	..	..	..	..
Total of 4 years—1874-75 to 1877-78 ..	128	12,621	50,394	19	638	3,021	15	1,392	1,978
1878-79 ..	46	2,770	11,416	5	669	2,925	6	298	650
1879-80 ..	49	3,028	17,132	9	553	2,474	6	456	1,167
1880-81 ..	61	3,770	20,451	9	1,517	4,666	8	635	3,128
1881-82 ..	122	6,140	30,239	10	1,716	4,996	17	2,854	7,246
TAHSIL TOTALS FOR 5 YEARS—1877-78 TO 1881-82.									
Montgomery ..	150	6,077	41,089	21	1,109	3,760	12	1,086	2,822
Gugera ..	69	3,378	16,107	5	277	547	5	305	758
Dipalpur ..	76	8,524	37,480	14	3,024	11,168	19	2,657	8,069
Pakpattan ..	25	2,577	9,770	3	434	1,145	1	190	532

NOTE.—These figures are taken from Tables Nos. XXXV and XXXV B of the Revenue Report. No details for transfers by agriculturists and others, and no figures for redemption, are available before 1874-75. The figures for earlier years include *all* sales and mortgages.

Table No. XXXIII, showing SALE of STAMPS and REGISTRATION of DEEDS.

1	2	3	4	5	6	7	8	9	10	11	12	13
YEAR.	INCOME FROM SALE OF STAMPS.				OPERATIONS OF THE REGISTRATION DEPARTMENT.							
	Receipts in rupees.		*Net income in rupees.*		*No. of deeds registered.*				*Value of property affected, in rupees.*			
	Judicial.	Non-judicial.	Judicial.	Non-judicial.	Touching immovable property.	Touching movable property.	Money obligations.	Total of all kinds.	Immovable property.	Movable property.	Money obligations.	Total value of all kinds.
1877-78 ..	28,986	4,721	26,585	4,547	347	89	203	639	1,50,047	7,876	59,983	2,20,062
1878-79 ..	27,424	6,870	24,088	6,583	384	76	199	659	2,00,711	3,969	67,157	2,71,837
1879-80 ..	29,395	7,881	25,501	7,568	400	11	183	636	2,04,244	3,036	67,484	2,78,591
1880-81 ..	30,047	8,283	26,403	7,917	385	4	67	569	1,74,798	700	40,783	2,26,083
1881-82 ..	31,956	7,458	28,198	7,124	313	6	81	531	1,51,146	1,758	34,405	3,05,218

NOTE.—These figures are taken from Appendix A of the Stamp and Tables Nos. II and III of the Registration Report.

Table No. XXXIIIA, showing REGISTRATION.

1	2	3	4	5	6	7
	Number of Deeds registered.					
	1880-81.			1881-82.		
	Compulsory.	Optional.	Total.	Compulsory.	Optional.	Total.
Registrar Montgomery ..	..	..	..	..	..	..
Sub-Registrar Montgomery	119	121	240	74	62	136
" Dipalpur ..	121	55	176	108	83	191
" Gugera ..	41	22	63	38	36	74
" Pakpattan ..	65	61	126	69	61	130
Total of district	346	259	569	289	242	531

NOTE.—These figures are taken from Table No. 1 of the Registration Report.

Table No. XXXIV, showing LICENSE TAX COLLECTIONS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	NUMBER OF LICENSES GRANTED IN EACH CLASS AND GRADE.											Total number of licenses.	Total amount of fees.	Number of villages in which licenses granted.
YEAR.	Class I.				Class II.				Class III.					
	1 Rs. 500	2 Rs. 200	3 Rs. 150	4 Rs. 100	1 Rs. 75	2 Rs. 50	3 Rs. 25	4 Rs. 10	1 Rs. 5	2 Rs. 2	3 Re. 1			
1878-79 ..	..	1	1	4	5	20	126	626	1,823	4,090	10,191	16,887	38,795	2,341
1879-80 ..	..	1	1	6	19	38	123	483	847	1,732	4,426	7,676	24,401	2,150
1880-81 ..	..	1	..	2	6	17	112	476	..	..	..	614	9,260	247
1881-82 ..	..	1	..	2	4	15	91	473	..	..	..	586	8,455	230
Tahsil details for 1881-82—														
Montgomery ..	..	1	..	..	..	2	11	93	..	..	..	107	1,505	38
Gugera ..	..	..	..	..	..	5	26	128	..	..	..	159	2,180	64
Dipalpur ..	..	..	..	..	3	7	40	137	..	..	..	187	2,945	79
Pakpattan ..	..	..	..	2	1	1	14	115	..	..		133	1,825	49

Table No. XXXV, showing EXCISE STATISTICS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	FERMENTED LIQUORS.					INTOXICATING DRUGS.						EXCISE REVENUE FROM		
YEAR.	Number of central distilleries.	No. of retail shops.		Consumption in gallons.		No. of retail licenses.		Consumption in maunds.				Fermented liquors.	Drugs.	Total.
		Country spirits.	European liquors.	Rum.	Country spirits.	Opium.	Other drugs.	Opium.	Charas.	Bhang.	Other drugs.			
1877-78 ..	4	32	7	..	1,795	28	28	20¾	1	90	..	8,170	6,316	14,486
1878-79 ..	4	32	6	86	1,601	28	28	19¾	1	95	..	7,972	6,394	14,366
1879-80 ..	4	32	6	..	1,786	31	31	17	1	86	..	8,349	5,797	14,146
1880-81 ..	4	30	5	..	2,055	31	31	15¾	2	51¼	..	9,075	6,171	15,246
1881-82 ..	4	30	7	..	1,959	31	31	17¼	2¾	36½	..	9,400	6,673	16,073
TOTAL ..	20	156	31	86	9,196	149	149	90½	7¾	358¾	..	42,966	31,351	74,317
Average ..	4	31	6	17	1,839	30	30	18	1½	71¾	..	8,593	6,270	14,863

NOTE.—These figures are taken from Tables Nos. I, II, VIII, IX, X, of the Excise Report.

Table No. XXXVI, showing DISTRICT FUNDS.

1	2	3	4	5	6	7	8	9	10	11
YEAR.	*Annual income in rupees.*			*Annual expenditure in rupees.*						
	Provincial rates.	Miscellaneous.	Total income.	Establishment.	District post, and arboriculture.	Education.	Medical.	Miscellaneous.	Public Works.	Total expenditure.
1874-75 ..	..	..	29,312	1,135	168	3,491	892	278	18,243	24,207
1875-76 ..	..	..	22,478	1,448	500	4,225	1,234	202	13,539	21,148
1876-77 ..	..	..	30,995	1,218	1,417	6,049	2,627	2,376	16,813	30,500
1877-78 ..	..	..	30,769	1,347	2,214	5,826	2,365	532	5,666	17,950
1878-79 ..	..	..	32,207	1,339	3,006	6,179	2,803	551	11,031	24,909
1879-80 ..	44,342	2,570	46,912	1,407	3,805	4,469	2,717	4,262	13,369	30,029
1880-81 ..	42,673	4,168	46,841	1,362	3,438	5,149	3,078	4,394	9,568	26,989
1881-82 ..	45,038	3,757	48,795	1,426	3,937	5,208	3,542	2,242	6,276	22,631

NOTE.—These figures are taken from Appendices A and B to the Annual Review of District Fund operations.

Table No. XXXVII, showing GOVERNMENT and AIDED SCHOOLS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
YEAR.	HIGH SCHOOLS.						MIDDLE SCHOOLS.						PRIMARY SCHOOLS.							
	ENGLISH.				VERNACULAR.		ENGLISH.				VERNACULAR.		ENGLISH.				VERNACULAR.			
	Government.		*Aided.*		*Government.*		*Government.*		*Aided.*		*Government.*		*Government.*		*Aided.*		*Government.*		*Aided.*	
	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.
FIGURES FOR BOYS.																				
1877-78 ..	..	..	..	..	..	..	..	..	..	..	3	498	..	..	..	..	23	994	..	..
1878-79 ..	..	..	..	..	..	..	..	..	..	..	3	387	..	..	..	..	21	899	..	..
1879-80 ..	..	..	..	..	..	..	1	7	..	..	2	50	1	56	..	..	23	1,251	..	..
1880-81 ..	..	..	..	..	..	..	1	12	..	..	2	53	1	86	..	..	23	1,291	..	..
1881-82 ..	..	..	..	..	..	..	1	15	..	..	2	42	1	106	..	..	24	1,203	..	..
FIGURES FOR GIRLS.																				
1877-78 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	53	..	..
1878-79 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	57	..	..
1879-80 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	60	..	..
1880-81 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	63	..	..
1881-82 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	41	..	..

N. B.—Since 1879-80, in the case of both Government and Aided Schools, those scholars only who have completed the Middle School course are shown in the returns as attending High Schools, and those only who have completed the Primary School course are shown as attending Middle Schools. Previous to that year, boys attending the Upper Primary Department were included in the returns of Middle Schools in the case of Institutions under the immediate control of the Education Department, whilst in Institutions under District Officers, boys attending both the Upper and Lower Primary Departments were included in Middle Schools. In the case of Aided Institutions, a High School included the Middle and Primary Departments attached to it; and a Middle School, the Primary Department. Before 1879-80, Branches of Government Schools, if supported on the grant-in-aid system, were classed as Aided Schools; in the returns for 1879-80 and subsequent years they have been shown as Government Schools. Branches of English Schools, whether Government or Aided, that were formerly included amongst Vernacular Schools, are now returned as English Schools. Hence the returns before 1879-80 do not afford the means of making a satisfactory comparison with the statistics of subsequent years.

Indigenous Schools and Jail Schools are not included in these returns.

Table No. XXXVIII, showing the working of DISPENSARIES.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		NUMBER OF PATIENTS TREATED.														
Name of Dispensary.	Class of Dispensary.	*Men.*					*Women.*					*Children.*				
		1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
Montgomery ..	2nd	..	1,846	2,601	2,560	3,739	..	1,463	483	547	545	..	747	543	270	611
Kamalia ..	2nd	..	2,895	2,784	3,044	3,783	..	815	688	1,014	1,181	..	780	706	1,046	1,903
Dipalpur ..	2nd	..	2,973	2,909	2,939	3,026	..	715	656	674	706	..	819	682	736	738
Gugera ..	2nd	..	2,178	1,746	12,73	978	..	451	425	347	228	..	303	227	182	121
Pakpattan ..	2nd	..	3,681	2,945	3,035	3,371	..	1,214	735	665	706	..	1,278	764	599	836
Total ..	..	..	13,573	12,985	12,851	14,897	..	4,658	2,997	3,247	3,366	..	3,921	2,922	2,933	4,209

		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Name of Dispensary.	Class of Dispensary.	*Total Patients.*					*In-door Patients.*					*Expenditure in Rupees.*				
		1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
Montgomery ..	2nd	..	4,056	3,627	3,477	4,895	..	232	218	254	221	..	1,657	2,058	1,619	1,879
Kamalia ..	2nd	..	4,490	4,178	5,104	6,867	..	217	163	184	196	..	1,061	1,138	1,068	1,250
Dipalpur ..	2nd	..	4,507	4,257	4,349	4,470	..	175	158	175	208	..	1,170	1,161	1,092	981
Gugera ..	2nd	..	2,932	2,398	1,802	1,327	..	159	107	97	98	..	1,657	1,067	963	1,114
Pakpattan ..	2nd	..	6,173	4,444	4,289	4,913	..	288	203	226	117	..	1,241	1,272	1,063	967
Total ..	..	..	22,158	18,904	19,031	22,472	..	1,071	849	936	840	..	6,786	6,691	5,805	6,191

NOTE.—These figures are taken from Tables Nos. II, IV, and V of the Dispensary Report.

Table No. XXXIX, showing CIVIL and REVENUE LITIGATION.

1	2	3	4	5	6	7	8	9
	Number of Civil Suits concerning				*Value in rupees of Suits concerning **			
YEAR.	Money or movable property.	Rent and tenancy rights.	Land and revenue, and other matters.	Total.	* Land.	* Other matters.	* Total.	Number of Revenue cases.
1878 ..	2,729	..	309	3,038	29,396	1,90,222	2,19,618	4,362
1879 ..	2,728	2	282	3,012	14,539	1,67,484	1,82,023	5,812
1880 ..	3,155	..	247	3,402	17,305	2,06,411	2,23,716	6,765
1881 ..	3,276	7	246	3,529	16,510	2,14,248	2,30,758	7,040
1882 ..	3,255	7	260	3,522	31,141	1,91,307	2,22,448	5,915

NOTE.—These figures are taken from Tables Nos. VI and VII of the Civil Reports from 1878 to 1880, and Nos. II and III of the Reports on Civil Justice for 1881 and 1882.

*Suits heard in Settlement courts are excluded from these columns, no details of the value of the property being available.

Table No. XL, showing CRIMINAL TRIALS.

	1	2	3	4	5	6
	DETAILS.	1878.	1879.	1880.	1881.	1882.
Persons tried.	Brought to trial	2,126	1,785	1,997	2,216	2,960
	Discharged	621	629	660	834	1,201
	Acquitted	244	96	177	183	219
	Convicted	1,261	1,024	1,141	1,134	1,423
	Committed or referred	18	15	1	59	65
Cases disposed of.	Summons cases (regular)	..	..	..	531	728
	" (summary)	..	..	..	10	4
	Warrant cases (regular)	..	..	..	676	830
	" (summary)	..	..	..	33	12
	Total cases disposed of	1,243	987	1,105	1,250	1,574
Number of persons sentenced to	Death	3	..	..	2	1
	Transportation for life	1	..	..	..	3
	" for a term	1	..	..	..	..
	Penal servitude	..	..	..	..	..
	Fine under Rs. 10	648	553	506	632	672
	" 10 to 50 rupees	325	205	224	196	218
	" 50 to 100 "	10	4	18	11	9
	" 100 to 500 "	2	1	3	..	1
	" 500 to 1,000 "	..	1	..	..	..
	Over 1,000 rupees	..	1	..	..	..
	Imprisonment under 6 months	221	290	303	492	269
	" 6 months to 2 years	414	250	190	274	254
	" over 2 years	9	17	10	13	26
	Whipping	81	91	182	97	95
	Find sureties of the peace	5	..	..	..	3
	Recognisance to keep the peace	18	15	16	29	38
	Give sureties for good behaviour	106	41	57	86	243

NOTE.—These figures are taken from Statements Nos. III and IV of the Criminal Reports for 1878 to 1880, and Nos. IV and V of the Criminal Reports for 1881 and 1882.

Table No. XLI, showing POLICE INQUIRIES.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Number of cases inquired into.					Number of persons arrested or summoned.					Number of persons convicted.				
Nature of offence.	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881
Rioting or unlawful assembly	2	5	4	7	8	35	54	28	73	40	22	35	21	52	46
Murder and attempts to murder	4	4	1	3	5	7	8	3	1	6	4	5	..	..	3
Total serious offences against the person	49	36	28	35	54	89	72	57	50	67	46	40	29	32	36
Abduction of married women	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total serious offences against property	147	178	184	167	177	149	197	189	150	143	107	138	137	120	90
Total minor offences against the person	20	15	11	30	38	44	41	13	52	51	28	31	10	36	38
Cattle theft	225	311	320	409	671	288	392	308	376	247	228	262	214	267	158
Total minor offences against property	539	601	615	717	1,038	665	755	689	727	599	497	519	491	541	435
Total cognizable offences	769	844	850	958	1,319	993	1,130	982	1,054	911	708	768	694	782	649
Rioting, unlawful assembly, affray	1	1	1	..	..	2	4	13	..	..	2	4	7	..	..
Offences relating to marriage	3	1	1	1	2	1	2	1	3	..	..	..	1	1	..
Total non-cognizable offences	77	76	78	52	115	175	119	121	68	99	101	92	81	50	78
GRAND TOTAL of offences	846	920	923	1,010	1,434	1,168	1,249	1,103	1,122	1,010	809	860	775	832	727

NOTE.—These figures are taken from Statement A of the Police Report.

Table No. XLII, showing CONVICTS in GAOL.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
	No. in gaol at beginning of the year.		*No imprisoned during the year.*		*Religion of convicts.*			*Previous occupation of male convicts.*					
YEAR.	Males.	Females.	Males.	Females.	Musalman.	Hindu.	Buddhist and Jain.	Official.	Professional.	Service.	Agricultural.	Commercial.	Industrial.
1877-78	388	2	742	5	642	278	..	17	..	17	725	..	..
1878-79	385	5	706	4	580	257	..	15	..	6	589	..	..
1879-80	463	2	560	6	379	76	..	14	..	2	314	14	13
1880-81	483	3	502	8	376	83	...	22	..	1	288	14	13
1881-82	481	26	501	9	275	23	..	12	..	2	173	12	..

15	16	17	18	19	20	21	22	23	24	25	26
	Length of sentence of convicts.						*Previously convicted.*			*Pecuniary results.*	

YEAR.	Under 6 months.	6 months to 1 year.	1 year to 2 years.	2 years to 5 years.	5 years to 10 years.	Over 10 years and transportation.	Death.	Once.	Twice.	More than twice.	Cost of maintenance.	Profits of convict labour.
1877-78	374	335	394	12	15	7	..	66	27	13	18,705	2,534
1878-79	313	199	570	9	3	3	3	10	11	17	29,153	1,106
1879-80	137	84	212	50	3	..	..	46	3	..	32,511	1,836
1880-81	124	184	165	32	2	..	..	29	5	3	24,691	1,987
1881-82	52	86	175	24	..	..	1	33	4	2	26,461	1,352

NOTE.—These figures are taken from Tables Nos. XXVIII, XXIX, XXX, XXXI, and XXXVII of the Administration Report.

Table No. XLIII, showing the POPULATION of TOWNS.

1	2	3	4	5	6	7	8	9	10
Tahsil.	Town.	Total population.	Hindus.	Sikhs.	Jains.	Musalmans.	Other religions.	No. of occupied houses.	Persons per 100 occupied houses.
Montgomery ..	Kamalia ..	7,594	3,295	66	1	4,227	5	1,021	744
	Montgomery ..	3,178	936	265	..	1,943	34	489	650
Gugera ..	Saiyadwala ..	3,389	1,356	93	..	1,940	..	654	518
Dipalpur ..	Dipalpur ..	3,435	1,194	113	..	2,124	4	639	538
Pakpattan ..	Pakpattan ..	5,993	2,329	54	..	3,610	..	1,378	435

NOTE.—These figures are taken from Table No. XX of the Census Report of 1881.

Table No. XLIV, showing BIRTHS and DEATHS for TOWNS.

1	2	3	4	5	6	7	8	9	10	11	12	13
TOWN.	Sex.	*Total population by the Census of*	*Total births registered during the year.*					*Total deaths registered during the year.*				
		1875.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.

No figures available.

Table No. XLV, showing MUNICIPAL INCOME.

1	2	3	4	5	6
NAME OF MUNICIPALITY.	Montgomery.	Kamalia.	Pakpattan.	Sayadwala.	Dipalpur.
Class of Municipality	II.	III.	III.	III.	III.
1870-71	1,202	1,678	3,132	..	..
1871-72	1,725	1,646	3,540	..	..
1872-73	1,565	1,970	3,257	..	..
1873-74	1,810	2,246	3,106	..	..
1874-75	1,092	3,030	2,522	889	1,162
1875-76	1,610	2,424	2,867	1,164	1,428
1876-77	1,446	1,827	2,478	998	1,237
1877-78	1,442	2,263	3,039	1,439	1,377
1878-79	1,872	3,452	2,792	1,354	1,249
1879-80	3,447	4,627	4,235	1,760	2,327
1880-81	3,944	5,412	4,518	1,269	2,690
1881-82	4,105	5,474	3,965	1,646	1,908

Table No. XLVI, showing DISTANCES.

	Montgomery	Okara	Dipalpur	Hujra	Attari	Haveli	Pak Pattan	Tibbi	Jamlera	Hurrappa	Chichawatni	Sheikh Fazeil	Kamir	Kamalia	Duburji	Rajana	Killianwala	Gugera	Balack	Satgharra	Mirak	Chuchak	Syadwala	Moharanwala	Bucheki	Nurpur	Dhauler	Kaure Shah
Montgomery (a) (b)																												
Okara (c)	23																											
Dipalpur (a) (b)	39	16																										
Hujra (b)	53	30	14																									
Attari (b)	68	45	29	16																								
Haveli (b)	60	37	21	24	25																							
Pak Pattan (a) (b)	29	32	26	40	45	20																						
Tibbi (b)	54	57	51	65	70	45	25																					
Jamlera (c)	63	66	60	74	79	54	34	9																				
Hurrappa (b)	12	35	46	60	75	67	41	66	48																			
Chichawatni (b)	25	48	59	73	88	80	54	45	45	13																		
Sheich Fazeil (c)	38	61	68	82	97	93	46	23	22	38	21																	
Kamir (c)	17	40	51	65	80	72	25	22	21	18	31	21																
Kamalia (b)	27	50	61	75	90	82	52	54	56	15	14	35	32															
Duburji (c)	39	62	78	92	107	99	68	57	58	27	14	35	56	22														
Rajana (c)	37	60	76	90	105	97	66	69	70	25	24	45	42	10	24													
Killianwala (b)	17	40	56	70	85	91	46	71	80	20	33	64	37	21	43	31												
Gugera (a) (b)	26	14	30	44	69	51	46	71	80	37	50	71	54	51	75	61	34											
Balack (b)	28	21	37	51	66	72	57	82	91	43	56	77	60	43	64	58	23	7										
Satgharra (c)	32	9	22	24	39	45	41	66	75	44	57	78	61	59	71	69	38	14	21									
Mirak (c)	39	16	29	43	58	50	55	80	89	51	64	85	68	65	78	75	40	15	22	7								
Chuchack (b)	46	23	39	53	68	60	55	80	89	58	71	92	75	72	85	82	47	22	20	14	7							
Syadwala (b)	43	31	47	51	66	68	63	88	97	54	67	81	71	68	81	78	45	17	25	16	9	11						
Moharanwala (c)	60	48	64	75	90	85	80	105	114	71	84	98	88	85	98	95	62	34	41	33	26	28	17					
Bucheki (b)	60	48	64	75	90	85	80	105	114	71	84	98	88	85	98	95	62	34	41	33	26	28	17	25				
Nurpur (c)	15	38	40	54	69	35	14	39	48	27	40	82	11	41	54	51	32	41	48	49	54	61	65	82	83			
Dhauler (c)	33	34	18	32	47	21	15	40	49	40	53	48	26	55	67	65	56	36	43	31	38	46	49	66	67	15		
Kaure Shah (c)	9	27	31	45	60	52	38	48	50	22	35	44	39	37	50	47	15	20	27	34	32	41	37	55	55	24	36	

(a) Tahsils.
(b) Thanas.
(c) Chaukis.

NOTE.—*Dipalpur* is also 36 miles from Montgomery by road.
Hujra is also 17 miles from the Wan Radha Ram Railway station, which is 44 miles from Montgomery.
Kamalia is 25 miles by rail from the Railway Station at Chichawatni, and 14 miles by road from Montgomery.
Chuchack is also 44 miles by rail to Wan Rahda Ram, and 14 from there by road.

Table No. I, showing LEADING STATISTICS.

1	2	3	4	5	6
		DETAIL OF TAHSILS.			
DETAILS.	DISTRICT.	Montgomery.	Gugerá.	Dipálpur.	Pákpattan.
Total square miles (1881)	5,574	1,815	1,498	956	1,305
Cultivated square miles (1878)	559	53	81	233	192
Culturable square miles (1878)	4,791	1,734	1,369	649	1,039
Irrigated square miles (1878)	543	50	78	231	184
Average square miles under crops (1877 to 1881)	562	99	98	273	92
Annual rainfall in inches (1866 to 1882)	10·3	10·3	6·9	8·8	8·5
Number of inhabited towns and villages (1881) ...	1,616	384	375	491	366
Total population (1881)	426,529	94,127	99,200	154,590	78,612
Rural population (1881)	402,940	83,355	95,811	151,455	72,619
Urban population (1881)	23,589	10,772	3,389	3,435	5,993
Total population per square mile (1881)	77	52	66	162	60
Rural population per square mile (1881)	72	46	64	158	56
Hindus (1881)	83,974	19,117	14,527	30,379	19,951
Sikhs (1881)	11,964	1,369	3,064	6,068	1,463
Jains (1881)	1	1	...	...	...
Musalmans (1881)	330,495	73,562	81,609	118,126	57,198
Average annual Land Revenue (1877 to 1881)* ...	515,316	109,214	92,062	218,819	95,221
Average annual gross revenue (1877 to 1881) † ...	605,043	...	...	...	...

* Fixed, fluctuating, and miscellaneous. † Land, Tribute, Local rates, Excise, and Stamps.